

TASMANIAN PLANNING COMMISSION



North West Transmission Upgrades Project Palmerston to Hampshire Hills

Matters of National Environmental Significance

*Report to the Department of Climate Change,
Energy the Environment and Water under
assessment accreditation of the Tasmanian Major
Infrastructure Development Approvals Act 1995*

10 March 2026

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Water under assessment accreditation of the Tasmanian Major Infrastructure
Development Approvals Act 1995

Prepared and published by:

Tasmanian Planning Commission
GPO Box 1691
Hobart Tasmania 7001

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email address: tpc@planning.tas.gov.au
internet address: www.planning.tas.gov.au

North West Transmission Upgrades Project
MNES Assessment – Palmerston to Hampshire Hills

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1 Purpose

This document reports on the Tasmanian Planning Commission's (Commission) assessment of the North West Transmission Upgrades project – Palmerston to Hampshire (the Project) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Cth).

The North West Transmission Upgrades Project proposed by Tasmanian Networks Pty Ltd (TasNetworks) is for the construction and operation of a double circuit 220kV overhead electricity transmission line between the following locations:

- (i) Palmerston and Sheffield;
- (ii) Sheffield, Heybridge and Burnie;
- (iii) Burnie and East Cam;
- (iv) East Cam and Hampshire Hills; and
- (v) Hampshire Hills and Staverton, along with

substations at Hampshire Hills and Staverton, and the construction and operation of ancillary facilities, including access tracks, storage site, communications sites, infrastructure assembly and laydown areas, site administration, and conductor winching and breaking sites.

In addition to these, TasNetworks is undertaking a range of associated works that do not require a decision under the MIDA Act¹. These associated works include the related modifications to existing substations, transmission lines, and distribution lines, and their operation once constructed.

The entire North West Transmission Upgrades Project (that includes associated works) has been determined to be a controlled action under section 75 of the EPBC Act, as follows:

- 1. EPBC No. [2020/8817](#) - Staverton to Hampshire Hills, including Staverton substation, determined 17 November 2020
- 2. EPBC No. [2022/09247](#) - Palmerston to Hampshire Hills, via Sheffield, Heybridge, Burnie and East Cam, including the Hampshire Hills substation, determined 25 July 2022.

The relevant controlling provision is listed threatened species and communities under sections 18 and 18A of the EPBC Act.

The Commission's assessment addresses the Palmerston to Hampshire Hills sections of the North West Transmission Upgrades Project, seeks to provide the Minister for the Environment and Water (or Delegate) sufficient information on the relevant impacts to

¹ Section 57 of the Tasmanian *Electricity Supply Industry Act 1995* specifies the interaction between work on electricity infrastructure and the *Land Use Planning and Approvals Act 1995*.

make a decision whether or not to approve the action under section 130(1) of the EPBC Act, and any conditions that should apply to such an approval.

The Commission will provide a separate assessment of the Staverton to Hampshire Hills section, after an application is made.

Matters that are to be considered in making the decision under 130(1) of the EPBC Act, such as the persons environmental history and, whether that person is a suitable person to be granted an approval [s.136(4)], was not information required by the accredited processes and will need to be separately considered by the relevant Minister (or Delegate).

1.1 Process summary

The assessment approach determined under the section 87 of the EPBC Act in relation to the project was that the project would be assessed by accredited assessment under the Tasmanian *Major Infrastructure Development Approvals Act 1999* (MIDA Act).

The accredited assessment of the MIDA Act is not subject to the Bilateral agreement between the State and Commonwealth, instead it was a one-off assessment accreditation.

The Commission's assessment of the project under the MIDA Act is formed in two parts, the setting of planning criteria and the assessment of an application for a discretionary permit under the Tasmanian *Land Use Planning and Approvals Act 1993* (LUPA Act).

The Commission exhibited draft planning criteria under section 12(3) of the MIDA Act from 5 December 2020 to 4 January 2021.

The Commission considered the representations received, consulted with the Department of Climate Change, Energy, the Environment and Water (DCCEE²), and prepared planning criteria under section 12(5) of the MIDA Act on 1 February 2021.

The planning criteria at schedule 2 include the Environment impact statement requirements, that set out the information required to be provided in addressing potential impacts of the project, including those on the matters of national environmental significance.

The Commission received TasNetworks' application for a discretionary permit under section 57 of the LUPA Act on 17 April 2025. Following the Commission's request for additional information under section 54 of the LUPA Act on 25 June 2025 and receipt of satisfactory information, the application was exhibited from 20 September 2025 to 18 October 2025.

Twenty-eight representations were received during the exhibition period.

² Formerly the Department of Agriculture, Water and the Environment.

Following consideration of TasNetworks representation that proposed modifications to use 50 monopole towers instead of 25 lattice towers the Commission advertised these changes and sought submissions from 24 January until 7 February 2026.

Five submissions were received during the additional advertising period.

The Commission, in consultation with DCCEEW, has considered TasNetworks' environmental impact statement (EIS), the information and matters raised in representations, TasNetworks' response to representations, and the requirements of the EPBC Act, as detailed below.

The [Commission's determination of the Project](#)³ against the planning criteria and the requirements of the MIDA Act is available from the Commission website.

In addition to the Commission's determination of the Project a permit is required for:

1. taking any threatened species listed under the Tasmanian *Threatened Species Protection Act 1995* (TSP Act)
2. taking of and species protected or otherwise controlled under the Tasmanian *Inland Fisheries Act 1995*
3. taking of protected, specially protected or partially protected wildlife and products of wildlife (that includes eggs, nests, and dens) subject to the Tasmanian *Nature Conservation Act 2002* and Nature Conservation (Wildlife) Regulations 2021
4. works, including clearing, in the Blythe River Conservation Area, Emu River Conservation Area, Mount Montgomery State Reserve under the Tasmanian *National Parks and Reserves Management Act 2002* and its regulations, and
5. works, including clearing, on Crown land and Public Reserves under the Tasmanian *Crown Lands Act 1976* and its regulations.

While the Commission's decision under the MIDA Act has considered potential impacts on State listed threatened species, MNES, wildlife and products of wildlife it is not a permit or approval for the purposes of the TSP Act, EPBC Act, Nature Conservation (Wildlife) Regulations 2021, *National Parks and Reserve Management Act 2002*, *Crown Lands Act 1976*, or *Inland Fisheries Act 1995*.

2 Description of the action

The proposed action is for the construction, operation and maintenance of:

1. a 220kV overhead transmission line between Palmerston and Hampshire Hills, divided into 5 distinct sections
2. a new switching station at Hampshire Hills
3. new access tracks and upgrades to existing tracks

³ <https://www.planning.tas.gov.au/assessments-and-hearings/current-assessments-and-hearings/north-west-transmission-upgrades-project-permit-for-palmerston-to-hampshire-section>

4. changes to the existing Palmerston, Sheffield and Burnie substations
5. changes to the existing Sheffield to Burnie 100kV overhead transmission line
6. changes to existing 22kV and low voltage distribution lines, and
7. temporary construction laydown sites, and temporary winch and drum break sites for conductor stringing

The five distinct components of the 220kV overhead transmission line include:

- a. Palmerston to Sheffield (PM-SH), ~78km in length, comprising 179 new lattice towers, demolition of an existing single-circuit 220kV overhead transmission line, and upgrades at the Palmerston substation within the existing footprint.
- b. Sheffield to Burnie (SH-BU), ~55km in length, comprising 82 lattice towers and 50 monopoles, demolition on the existing 220kV overhead transmission line between Burnie and Stowport, changes to the existing 110kV overhead transmission line, a 1.15ha expansion of the Sheffield substation, and a 0.35ha expansion of the Burnie substation.
- c. Heybridge Spur East (HB Spur East), ~3km in length, comprising 9 lattice towers.
- d. Heybridge Spur West (HB Spur West), ~3km in length (30m offset from HB Spur East), comprising 9 lattice towers.
- e. Burnie to Hampshire Hills (BU-HH), ~26km in length, comprising 62 lattice towers, and construction of a 1.6ha Hampshire hills switching station.

All of these components require consequent undergrounding of 22kV distribution lines, noting that for the Heybridge Spurs undergrounding of 22kV distribution line is only required will occur when the first spur is constructed.

The transmission line components are generally wholly or partially located within existing electricity wayleave easements for the Palmerston to Sheffield, and Sheffield to Burnie components. Both Hampshire Spurs and the majority of the Burnie to Hampshire Hills components are not within existing electricity wayleave easements.

The transmission line is predominately designed as lattice towers (with some monopoles carry a single circuit), carrying 12 conductors (6 twin conductors) and 2 optical ground wires.

Heights of the transmission towers is variable, but in the range of 33m to 60m.

Components of the action that have particular relevance to MNES include:

- The timing of construction activities
- Vegetation clearance and ongoing management
- The location of access tracks, their construction management and ongoing management
- The location and design of watercourse crossings, their construction management and ongoing management
- construction transport

- rehabilitation of temporary laydown and construction sites, and
- conductor and optical ground wire arrangements

The action includes vegetation conversion and partial clearance (collectively described here as vegetation modification and the area of disturbance (AoD)) shown and described in the EIS at Figure 4.2 and Part A, as:

- conversion - clearing to ground level: that is the removal of all vegetation to the surface of the ground.
- clearing to ground cover: partial clearance with the retention of vegetation that has a height of under 1-1.5m above ground level, and the retention of tree stumps.
- Partial clearing to mid-storey: that is the retention of vegetation heights typical 6 to 15m above ground level.

Both clearing to ground cover and partial clearing to mid-storey is to maintain at least 6.5m electrical safety distance below conductors, it entails the clearing of trees and shrubs that are within that distance.

In addition to the vegetation clearance shown in Figure 4.2 of the EIS, the action will involve the clearing of trees in proximity to, but outside of the proposed easement, that have the potential to fall within the electrical safety distance area.

Excluding the proposed clearing of winch and drum sites, the Commission accepts the evidence provided of the proposed extent of clearing.

The Commission considers that the proposed clearing to ground cover of winch and break sites, is not supported by the required layout and operation of these areas. For the purposes of the assessment of potential impacts on MNES, the Commission considers that the winch and break sites will be cleared to ground level.

3 MNES summary

TasNetworks has undertaken a range of desktop analysis and on-ground surveys to determine the presence, absence or likelihood of listed species, migratory species, their habitat, and threatened vegetation communities occurring within the area of the proposed action and in proximity to the proposed action.

The results of these studies and surveys, along with TasNetworks' assessment is set out within the Environmental Impact Statement and associated appendices.

A likelihood of occurrence analysis of threatened flora and fauna species with records generated by the PMST and NVA databases within the 5km of the OHTL were assessed (see Part E - Appendix B – Ecology Assessment Part 1 (Appendix B Tables B1 and B2)).

An analysis of these database searches considered the habitat characteristics of the MNES and those present in the study area. The analysis provided a rationale and classified each MNES according to likelihood of occurrence. The results of the analysis,

including a rationale for each determination, are provided in TasNetworks ecological assessment report (Attachment E - Appendix B).

Field surveys were undertaken for species known or likely to occur in the area, along with additional field surveys to determine the presence of potential habitat and occurrence of some species identified as unlikely to occur.

The Commission notes that all field methods detailed in TasNetworks EIS at Part E, Attachment B1-3. are best practice and have been undertaken by competent ecologists.

The Commission considers that with the nature of the landscape surveyed and its habitat characteristics the results of surveys are credible. However, all surveys have limitations and additional important values including dens, nests and seasonal orchids may have been overlooked.

In particular, the Commission notes that:

- Eagle nest surveys suffer from visibility limitations due to distance from a nest, angle of view and light and shade challenges or due to occurrence in unexpected locations
- Masked owls may utilise different trees for nesting from time to time, and unutilised suitable masked owl nest trees may be utilised in a subsequent year, and
- No flora survey can guarantee complete coverage of a survey area. Species may have been over-looked or be absent due to seasonal visibility or fluctuations in abundance from year to year.

The Commission also notes that the EIS identifies that approximately 175ha of the identified survey area including 28.4ha of the Area of disturbance (AoD) has not been verified by survey, noting the majority (approximately 26ha) of the unsurveyed land within the AoD is already modified. The EIS sets out that the 175ha unsurveyed area was either inaccessible due to steep terrain or, for fifteen parcels, was not made available by landowners.

The Commission recognises the potential impacts identified in the EIS include the known impacts that the proposal is likely to generate, and considers that while unforeseen impacts remain possible, they are unlikely.

The Commission has considered the EIS findings and limitations in its MNES assessment (section 5) and consideration of potential impacts and mitigation actions detailed in sections 5, 6 and 7 of this report.

3.1 Listed fauna and migratory species

TasNetworks' Environmental Impact Statement (EIS) considers that of the 45 listed fauna and migratory species with the potential to be within the survey area 15 are

known (nine species) or likely (six species) to occur in the area. Listed fauna and migratory species known and likely to occur in the survey area are listed in table 1⁴.

Ten species were considered by TasNetworks as unlikely to occur in the area, either due to targeted surveys of habitat not identifying the presences of the species, and/or potential habitat was identified but no records of the species exist within 5km of the survey area. Listed and migratory species unlikely to occur in the survey area are listed in table 1.

The remaining 20 species were considered by TasNetworks to be absent if the survey area was outside the known range and there were no records within 5km, or no suitable habitat was identified within the survey area.

Table 1. Listed and migratory fauna species identified by TasNetworks as known, likely to occur.

Scientific name	Common name	Listing status	Likelihood
<i>Apus pacificus</i>	fork-tailed swift	Migratory	Likely
<i>Aquila audax subsp. fleayi</i>	Tasmanian wedge-tailed eagle	Endangered	Likely
<i>Astacopsis gouldi</i>	giant freshwater crayfish	Vulnerable	Known
<i>Ceyx azureus diemenensis</i>	Tasmanian azure kingfisher	Endangered	Likely
<i>Dasyurus maculatus subsp. maculatus</i>	spotted-tail quoll	Vulnerable	Known
<i>Dasyurus viverrinus</i>	Eastern quoll	Endangered	Known
<i>Engaeus yabbimunna</i>	Burnie burrowing crayfish	Vulnerable	Likely
<i>Gallinago hardwickii</i>	Latham's snipe	Migratory	Known
<i>Hirundapus caudacutus</i>	White-throated needletail	Vulnerable	Likely
<i>Lathamus discolor</i>	swift parrot	Critically endangered	Known
<i>Litoria raniformis</i>	green and gold frog	Vulnerable	Likely
<i>Perameles gunnii subsp. gunnii</i>	eastern barred bandicoot	Vulnerable	Known
<i>Prototroctes maraena</i>	Australian grayling	Vulnerable	Known

⁴ See clarifications in section 4.4 concerning species listing status.

Scientific name	Common name	Listing status	Likelihood
<i>Sarcophilus harrisii</i>	Tasmanian devil	Endangered	Known
<i>Tyto novaehollandiae castanops</i>	Tasmanian masked owl	Vulnerable	Known

Table 2. Listed and migratory fauna species identified by TasNetworks as unlikely to occur⁵.

Scientific name	Common name	Listing status
<i>Botaurus poiciloptilus</i>	Australasian bittern	Endangered Migratory
<i>Calidris acuminata</i>	sharp-tailed sandpiper	Vulnerable Migratory
<i>Calidris canutus</i>	red knot	Endangered Migratory
<i>Calidris ferruginea</i>	curlew sandpiper	Critically endangered Migratory
<i>Engaeus granulatus</i>	central north burrowing crayfish	Endangered
<i>Galaxias fontanus</i>	swan galaxias	Endangered
<i>Oreisplanus munionga subsp. larana</i>	Marrawah skipper	Vulnerable
<i>Pteropus poliocephalus</i>	grey-headed flying fox	Vulnerable
<i>Sternula nereis subsp. nereis</i>	Australian fairy tern	Vulnerable
<i>Tringa nebularia</i>	common greenshank	Migratory

The EIS identifies that without mitigation there is the potential for a significant impact on The Tasmanian Devil, Spotted-tailed quoll, Eastern quoll, Tasmanian wedge-tailed eagle, Giant freshwater crayfish, and Burnie burrowing crayfish.

The Commission's assessment detailed in sections 6 and 7 considers that the potential for significant impacts can be mitigated.

⁵ While the EIS states the Marrawah skipper was ultimately assessed as unlikely to occur (chapter 10, section 5.6.1), appendix B.2 identified the likelihood of occurrence as absent.

3.2 Listed flora

No flora species listed under the EPBC Act were identified during TasNetworks' on-ground surveys.

TasNetworks' Environmental Impact Statement (EIS) considers that the 23 listed flora with the potential to be within the survey area are either absent (sixteen species) or unlikely to occur (seven species).

Listed flora species were classified as absent where the survey area was outside the known range with no records within 5km and/or no suitable habitat was identified adjacent to or within the survey area.

Listed flora species were classified as unlikely to occur where suitable habitat exists but the species had not been identified during on-ground surveys.

Table 3. Listed flora species identified by TasNetworks as unlikely to occur.

Scientific name	Common name	Listing status
<i>Caladenia caudata</i>	tailed spider-orchid	Vulnerable
<i>Caladenia pallida</i>	rosy spider-orchid	Critically endangered
<i>Caladenia tonellii</i>	robust fingers	Critically endangered
<i>Glycine latrobeana</i>	lover glycine	Vulnerable
<i>Prasophyllum crebriflorum</i>	crowded leek-orchid	Endangered
<i>Pterostylis commutata</i>	Midland greenhood	Critically endangered
<i>Pterostylis ziegeleri</i>	grassland greenhood	Vulnerable

The Commission's assessment notes while presence is considered in the EIS to be unlikely, the cryptic nature of some species and the incomplete survey coverage of potential habitat requires a precautionary approach to evaluating presence.

The Commission's assessment detailed in section 6.2 considers that the potential for significant impact on listed flora species can be avoided.

3.3 Listed threatened ecological communities

TasNetworks' Environmental Impact Statement (EIS) considers that of the six threatened ecological communities with the potential to be present within the survey area four were absent, and two were identified as occurring within the survey area.

The two threatened vegetation communities identified as occurring in the survey area are:

1. Tasmanian white gum (*Eucalyptus viminalis*) wet forest, listed as critically endangered, and
2. Tasmanian Forests and Woodlands dominated by black gum or Brookers gum (*Eucalyptus ovata* / *E. brookeriana*), listed as critically endangered.

The EIS notes that the Tasmanian Forests and Woodlands dominated by black gum or Brookers gum, may not meet the condition thresholds required to be classified as the threatened community, and that one patch of the community has not been verified by a field survey.

Four potential threatened vegetation communities were determined to be absent from the survey area either due to the survey area being outside the communities' known range or being verified as absent in field surveys.

The Commissions assessment detailed in sections 6 and 7 considers that there is no potential for a significant impact on these communities.

3.4 Clarification of matters assessed

The primary decisions to determine the project was a controlled action, occurred prior to:

- the listing of the Blue-winged Parrot (*Neophema chrysostoma*) and Latham's snipe (*Gallinago hardwickii*) as vulnerable; and
- delisting of the Satin flycatcher (*Myiagra cyanoleuca*) as a migratory species.

The operation of section 158A of the EPBC Act, means that approval process decisions must disregard those species becoming a listed threatened species, and consider the proposed action as if the Blue-winged Parrot and Latham's snipe were not listed as vulnerable.

Latham's snipe is considered in the MNES assessment as a migratory species.

The operation of section 158A of the EPBC Act does not require assessment of the satin flycatcher that was delisted after the determination that the project as a controlled action.

The action is undertaken outside of Commonwealth marine areas and listed marine species (declared under section 248 of the EPBC Act) have not been considered as part of this assessment. Listed marine species that are also a listed threatened species, or a migratory species are considered within the MNES assessment as a listed species and/or a migratory species.

4 Feasible alternatives

TasNetworks provide information on the project rationale and alternatives in chapter 2 of the EIS, dated August 2025.

The Commission notes that the Route Options Report is presented in general and qualitative terms, and the comparison of different potential impacts on MNES (EIS, Chapter 2) is similarly qualitative and too narrow in discussion to aid assessment.

The Commission notes that no alternative transmission line routes or designs have been proposed as part of the Project, and its assessment of impact on MNES species for the proposed route is detailed in sections 6 and 7.

Not taking the action is identified as not being a feasible alternative. The EIS notes portions of the transmission connection between Palmerston and Sheffield and between Sheffield and Burnie is either currently constrained or will become constrained due to projected and targeted energy generation and transmission needs (including for the Marinus Link project). The EIS also notes the Heybridge component is required for connection of the Marinus Link project to the Tasmanian Network, if that project proceeds. The section from Burnie to the proposed Hampshire Hills substation, provides for future generation to connect to the transmission network.

TasNetworks did not propose any alternative routes but did document their consideration of alternative routes for the Heybridge component (that includes two double circuit 220kV overhead transmission lines) and the section between Burnie and Hampshire Hills in a Route Options Report, June 2021.

Three route options were considered prudent and feasible for the Heybridge Spur in the Route Options Report. The Western option was identified as the preferred route for a range of reasons including having greater separation distance to Wedge-Tailed Eagle nests, and avoidance of covenanted and reserved land.

Two Options were considered prudent and feasible for the Burnie to Hampshire Hills section. One option considered a 25km alignment parallel to an existing 110kv line, with the other (the proposed alignment) traversing from Burnie to East Cam (5km) then south to Hampshire Hills (25km). This option was more constrained at a point where the separation distances for the proposed transmission line and existing 110kv line to existing dwellings is too small.

The Commission notes the Route Options Report, and particularly the constraints analysis for the alternative and adopted route rates native vegetation as a low constraint and having a compatible land use. This provided limited consideration of potential habitat for MNES species in the selection of the route; noting that cleared agricultural land is equally weighted as a low constraint. Consequently, potential impacts on MNES habitats were considered after route selection and are detailed in Chapter 6 of the EIS.

For the remaining sections (Palmerston to Sheffield, and Sheffield to Burnie) an alignment partially within or adjoining existing easements was identified as the preferred route.

The Commission notes the rationale for the Palmerston to Sheffield, and Sheffield to Burnie alignment, and notes the potential impacts on MNES discussed in sections 6 and 7.

A comparison of the potential impacts on MNES from the preferred overhead lattice towers with other designs including use of monopoles or underground transmission. is provided in Chapter 2 of the EIS.

The EIS reports undergrounding was discounted as an option primarily due to costs, but also due to increase route length and greater levels of ground disturbance and clearing compared to overhead transmission. The rationale provided is that access tracks are required along the length of trenched easements, and the easement is required to be maintained free of deep-rooted vegetation (while also noting the easement is 15-20m wide vs 50m for overhead transmission). While the EIS is unclear and provides no cost comparisons between overhead and underground lines or a consequent comparison of environmental impacts, the discounting of the option suggests undergrounding large sections of the transmission line would not be feasible.

The EIS noted that lattice towers are proposed generally due to them complementing the existing network, construction costs and high degree of reliability. Monopoles are identified as requiring a smaller footprint and reduced clearing requirements.

5 MNES assessment of relevant Issues

The Commission's assessment is prefaced by ecological facts that provide context to each MNES assessment and the EPBC Significant Impact Criteria. The sources of these data are TasNetworks EIS and Ecology reports (Part E - Appendix B) and scientific literature.

The Commission's assessment considers the information presented in TasNetworks EIS. The EIS presents relevant impacts in Sections 6.1.5 for fauna and 6.2.4 for flora and vegetation communities, along with the avoidance and mitigation measures in sections 6.1.7 and 6.2.6.

TasNetworks provides a Significant Impact Assessments (SIA) for each MNES that are likely to suffer a significant impact if potential impacts are unmitigated. These SIA are provided in Attachment E. Appendix B Part 1.2 - Appendix E. These rely on a qualitative determination by reasoning to effect of mitigation actions and expected success of management measures in reducing residual impacts to not significant.

The Commissions assessment has considered separate SIA's that draw upon quantitative ecological data in addressing each criterion.

5.1 Species considered to be absent or unlikely to occur

The EIS considers a number of MNES retrieved from the PMST are absent or unlikely to occur.

Ten⁶ terrestrial fauna (see Table 2) were classified as unlikely to occur or absent, and were noted as having localised occurrences, and suitable habitat outside the study area, or noted as being either vagrants or very rare occurrences of highly mobile species that may be detected from time to time outside of known range and habitats.

Fourteen terrestrial fauna were found not to occur due to the absence of no or negligible suitable habitat occurring in the study area and few records nearby. The EIS considered that one or more of these species may occur in the study area in very low numbers on a very rare occasion.

The Commission considered that the rationale for the classifications of unlikely or absent for these terrestrial fauna species are plausible. The Commission further considers that no objective assessment would determine that an impact has a real or not remote chance of occurring for these species, and if it did would certainly not be notable, important or of consequence to the populations of these species.

TasNetworks Ecological assessment report identified that of the four threatened ecological communities retrieved from the PMST were considered to not occur due to no suitable habitat being present in the study area. The absence of these ecological communities was validated during field surveys.

Twenty-three flora species were found to be unlikely to occur (seven species) or absent (sixteen species).

The Commission considers that due to incomplete coverage of flora surveys and the accepted limitations of flora surveys such as seasonal variation in occurrence or visibility due to low numbers it remains possible that one or more of the species, particularly orchids but also other herbaceous species, classed as unlikely to occur could be present. The Commission notes that the EIS acknowledges the survey limitations and proposes additional surveys for some threatened flora species classified as unlikely to occur prior to construction.

One species previously recorded very close to the AoD is *Barbarea australis* (native wintercress) on the Guide River, approximately 800m west of the BU–HH section. This species was not recorded during TasNetworks field surveys, which found little suitable open riverine habitat; streams were small, with closed forest canopies and lacking rocky-cobble substrate required for the species (Threatened Species Section 2010) and was consequently considered in the EIS as unlikely to be present on the site.

However, the Commission notes that *B. australis* has also been recorded on stream banks below canopies on the St Patricks River (P Barker Pers Obs). The Commission

⁶ While the EIS states the Marrawah skipper was ultimately assessed as unlikely to occur (chapter 10, section 5.6.1), appendix B.2 identified the likelihood of occurrence as absent, and it has been considered absent in the Commission's assessment.

notes no clearing to ground level is proposed at watercourses, except where new access track crossings are proposed.

The Commission considers that given the characteristics of *Barbarea australis* clearing under transmission lines to ground cover (being 0.5-1m above ground level) is unlikely to have the potential for a significant impact on the species, if it were to occur on the site.

The Commission accepts the EIS rationale for flora classified as absent.

Further Flora Survey

The Commission notes given the limitation of flora surveys, a precautionary approach is warranted in suitable habitat on sites proposed for habitat modification to ground level or to ground cover for some species classified as unlikely to occur.

After considering the vegetation communities identified in the EIS and the potential habitat of the threatened flora species an additional survey is required to identify the presence or absence of the four orchid species in their potential habitat, and targeted surveys at proposed new watercourse crossings for *Barbarea australis*.

These relevant orchid species are *Caladenia pallida*, *Caladenia tonellii*, *Prasophyllum crebriflorum* and *Pterostylis ziegeleri*.

The timing of surveys is important due to the seasonally variable nature of flowering and the difficulty in determining the orchid species outside of flowering. Consequently, the Commission consider surveys should occur once each relevant orchid species has been observed to be in flower at a known location elsewhere; thus confirming that the species is visible to give confidence in a negative survey result in the impact area.

Flora Avoidance

TasNetworks proposes to avoid these threatened flora species if they occur on site, through the operation of exclusion zones.

The Commission considers avoidance and managing the manner that works occur in proximity to these threatened flora species is unlikely to result in the potential for a significant impact to occur.

In the absence of new records following flora surveys, no additional mitigation measures are necessary.

5.2 Tasmanian Devil (*Sarcophilus harrisii*)

5.2.1 Conservation Status

The Tasmanian devil is listed as Endangered under the EPBC Act (since 2009), reflecting a dramatic population decline caused by Devil Facial Tumour Disease (DFTD) and compounding threats such as habitat loss and roadkill. The decline has exceeded

80% within three generations, representing one of the most rapid mammalian collapses recorded in Australia (Hawkins et al., 2006).

- Listing category: Endangered under the EPBC Act (2009).
- Key reasons: disease-induced mortality, small and declining population, habitat loss, and roadkill (DPIPWE, 2010; DEWHA, 2009).
- Population decline: Possibly ~130,000 pre-DFTD 1990's to <15,000 mature individuals in the 2020s.

Relevant EPBC Instruments

Two national policy documents provide direction for conservation and must be considered in the context of new infrastructure proposals.

- Recovery Plan (2010–2020): emphasised disease management, monitoring, and habitat retention (DPIPWE, 2010).
- Approved Conservation Advice: most recently updated in 2021, prioritises mitigating den disturbance, reducing roadkill, and continuing disease research (DEWHA, 2009).

5.2.2 Ecology, Population Status and Demography

Ecology

Tasmanian devils occur across a range of habitats, from coastal heath to dry and wet eucalypt forest, as well as farmland margins (Jones et al., 2004). The devil is a hunter and a scavenger. Denning sites are critical, often located in hollow logs, caves, or dense vegetation. Devils will use multiple dens, usually scattered around the home range. Both quolls and devils will use empty wombat burrows, but they will also dig their own dens. The devil is opportunistic in regard to general den selection and can find accommodation for breeding in human structures such as beneath sheds and houses. Maternal dens, however, are selected in the best quality denning habitat and some have been found to have extensive, up to 30m long tunnel systems. Where soils are hard for digging these maternal dens can be used for many years. Rocky cliffs and mid/upper slopes above rivers are known to be optimal locations for devil dens (M.Jones pers.comm).

Nevertheless, the protection of maternal dens in native habitat is more important now than ever to aid in the recovery from DFTD. Densities are lowest in areas with high DFTD prevalence. Its role as a scavenger makes it vulnerable to being killed on roads while eating carrion.

- Broad habitat use: forest, woodland, heath, and agricultural edges.
- Critical features: secure natal dens in logs, burrows, caves, or vegetation.
- Ecological role: apex scavenger maintaining trophic balance.

- Vulnerable to roadkill

Population Status and Demography

Pre-European populations were estimated at ~20,000, increasing to 130,000–150,000 by 1995 before DFTD emerged (Jones et al., 2007). Due to the impacts of DFTD recent estimates suggest fewer than 15,000 mature individuals, with population strongholds in north-west Tasmania (DEWHA, 2009).

- Pre-European: ~20,000 individuals.
- Pre-DFTD (1995): 130,000–150,000.
- Recent: <15,000 mature individuals.

Area of Occupancy and Distribution

The species remains widespread across Tasmania where it has taken advantage of the increase in prey and carcass availability associated with agricultural land use.

- Area of occupancy: ~64 000km².
- Extent of occurrence: 64,000km².
- Distribution: widespread with variable density reflecting food sources and impact of DFTD.

Home Range, Territory, and Density

Home ranges differ by sex, with males ranging more widely than females. Devils typically maintain multiple dens within their territories. However, home ranges can overlap sometimes resulting in clusters of natal dens where clusters of prime opportunities occur. Overlapping ranges also allows displaced animals to be accommodated.

- Female home range: 8–16km².
- Male home range: 4–26km² (larger seasonal movements).
- Pre DFTD density: 1–3 individuals/km².
- Post DFTD density: often <0.5 individuals/km² (Hawkins et al., 2006).

Life History and Breeding

The devil's short lifespan and limited breeding opportunities compound vulnerability to population decline.

- Lifespan: ~5 years in the wild.
- Maturity: 2 years.
- Generation length: 5–6 years (lower if diseased)

- Breeding: litters of ~4 young, often fewer in DFTD-affected regions (DPIPWE, 2010).

Devils can use multiple dens per breeding season, disturbance to active natal dens can have disproportionate consequences for local productivity.

Uncertainty

Uncertainty surrounds population estimates due to patchy survey coverage, cryptic den detection, and regional variability in productivity. Such uncertainty reinforces the need for a precautionary approach to impact assessment (DEWHA, 2009).

- Population size estimates remain variable due to uneven monitoring.
- Den detection is difficult, with risk of false negative surveys
- Productivity varies with disease prevalence and habitat quality.

5.2.3 Findings and Relevant Impacts

Findings

Within the project survey area, records from the Natural Values Atlas (NVA) confirm the species' presence across OHTL route (sections PM–SH, SH–BU, and BU–HH). Field surveys detected scat evidence in the Area of Disturbance (AoD).

Devil Facial Tumour Disease (DFTD) is prevalent in the local population.

Habitat mapping identified approximately 193ha of foraging habitat which includes 139ha of suitable devil denning habitat in the AoD. The habitat is provided by dry and wet eucalypt forest and woodland, with potential den features such as hollow logs, rock outcrops, and wombat burrows.

TasNetworks field surveys identified no active dens, but it is acknowledged that den detection is unlikely unless the field surveys are intensive.

TasNetworks EIS notes that areas of silvicultural plantations are present, which may provide den habitat in windrows but these areas were excluded from the measure of habitat clearance.

Relevant Impacts

Denning Habitat

The EIS identifies a total of 139ha of potential devil denning habitat within the AoD is proposed for some form of habitat modification:

- 89ha of preferred dry eucalypt forest/woodland (TASVEG DAC, DAD, DAM, DAZ, DDE, DOB, DOV, DSC, DVG).
- 50ha of less-preferred wet eucalypt forest/woodland (TASVEG WDB, WOB, WOL, WOR, WOU, WVI).

The Commission's breakdown of modification to denning habitat includes:

- 38.8ha to ground level – that represents a:
 - conversion (permanent loss) of 26ha comprising 22Kv distribution lines (1.5ha), access tracks (15.5), tower pads and vegetation clearance area (10.8ha).
 - functional loss of habitat for existing dens of 12.8ha comprising winch, drum and break sites (6.1ha) and outside tower pad vegetation clearance area (6.7ha), that can be rehabilitated to a modified state.
- 71.4ha to ground cover – partial clearance that reduces denning habitat quality.
- 28.4ha to mid-storey – partial clearance that reduces denning habitat quality.

The Commission considers that all denning opportunities will be lost within the tower pad footprint and the area surrounding the tower pad footprint that is permanently maintained to electrical safety clearance requirements.

The Commission notes that TasNetworks' Ecological Assessment Report sets out that areas outside those maintained for tower pad electrical clearance requirements can be established with vegetation. The Commission notes that given the close proximity to towers, this area is unlikely to exceed being maintained to ground cover. The Ecological Assessment Report further notes that this area will unlikely provide future denning opportunities given the disturbance nature of the vegetation and classified these areas as a permanent loss.

The Commission considers that areas outside electrical safety clearances represent a functional loss of existing dens, where heavy machinery can cause dens to collapse, and clear felling may remove features that make a den useable (DPIPWE, 2010). However, the Commission considers there is the potential for future shelter dens at these sites to be available when maintained to ground cover, particularly in burrows and dense tussocks.

Overall, this constitutes a loss or degradation of 139ha of potential native forest denning habitat.

Silvicultural plantations (76ha within AoD) provide denning opportunities in windrows, particularly in cleared landscapes (Lyll, 2018). These plantation denning opportunities are incorporated into the landscapes carrying capacity.

However, the Commission notes that there is no available data on existing windrows within 76ha of silviculture plantations, and considers they are capable of being retained in the 55.1ha of plantations proposed to be cleared to ground cover.

Foraging Habitat

The EIS identifies that within the AoD, 215.2ha of potential devil foraging habitat (including the denning habitat reported above) is proposed for modification, including dry and wet eucalypt forest, rainforest, native grassland (GCL), and plantations.

The Commission's breakdown of modification to foraging habitat includes:

- 59.8ha cleared to ground level comprising:
 - Conversion of 25.3ha for 22kV distribution lines and access tracks, that is not a functional loss, as Tasmanian devils use linear features for movement.
 - Conversion of 26.7ha for tower pad laydown areas noting 10.3ha is temporary clearance outside tower pad vegetation clearance areas, that can be rehabilitated to a modified state.
 - Temporary clearance 7.8ha for winch, drum and break sites, 4.5ha that can regenerate to ground cover and 3.3ha outside the easement that can fully regenerate.
- 128.6ha cleared to ground cover is permanent partial clearance but still suited to foraging. Noting 55.1ha is plantation.

29.5ha mid-storey partial clearance represents a permanent reduction of canopy but is still suited to foraging. The Commission considers that not all clearance to ground level represents a loss of foraging habitat. The Commission notes Tasmanian devils use features such as roads and fence lines for scavenging (Anderson et al., 2020) and roads for movement (Anderson et al., 2017). The Commission considers that the 16.4ha of foraging habitat cleared to ground level for tower pads and tier electrical safety clearance requirements is similarly available for foraging.

In addition, 734.8ha of agricultural land intersects with the AoD. While devils do not use extensive pasture away from habitat edges, they exploit mixed farmland–forest mosaics and anthropogenic corridors, meaning conversion of agricultural land to easements or tracks is unlikely to materially affect foraging.

Roadkill

Tasmanian devils and quolls are susceptible to road mortality, particularly between dusk and dawn, due to their carnivorous scavenging behaviours which attracts them to carrion on roads. A traffic assessment was conducted for the routes proposed for use during project construction and increases in night (high risk) traffic associated with the proposal were predicted.

The traffic assessment predicted that night-time vehicle movements (4 pm–7 am) during project construction would significantly increase on 138 of 218 assessed roads,

with more than a 10% rise in traffic volumes compared to existing levels (based on existing Department of State Growth (DSG) night time traffic data.

These increases, particularly during conductor stringing, tower foundation works and erection, pose elevated roadkill risks for Tasmanian devils and Quolls.

Disease Spread

The Commission notes that while DFTD is prevalent in the AoD it considers that the proposal (specifically habitat clearance and modification and construction of access tracks) will not accelerate the spread or increase prevalence of this disease.

Significant Impact Assessment

The Commission finding against the *Significant Impact Guidelines 1.1 2013* is set out in the SIA at Appendix 2, along with additional discussion of impacts and mitigation in section 6.

5.3 Spotted-tailed Quoll (*Dasyurus maculatus maculatus*)

5.3.1 Conservation Status

The Spotted-tailed Quoll (Tasmanian population) is listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The population was recognised in 2000 as being at risk from habitat loss, persecution, and increased predation. The listing reflects the historical decline and these ongoing pressures, highlighting the species' vulnerability despite persistence in many forested regions.

- EPBC status: *Vulnerable* (since 2000).
- Population decline: from ~12,000 individuals pre-European settlement to ~3,000 by the mid-1990s (Jones & Rose, 1996).
- Key threats: habitat loss, persecution, roadkill, predation of young by cats, and den disturbance (DELWP, 2016).

Relevant EPBC Instruments

The primary instrument for this species are:

- *Recovery Plan for the Spotted-tailed Quoll (Dasyurus maculatus maculatus) (Tasmanian population)* (DELWP, 2016): It sets out objectives to stabilise and recover the population by protecting habitat, reducing direct mortality, and increasing public awareness. The 2016 Recovery Plan (DELWP): emphasises protection of large intact forest, management of den sites, reduction of persecution, and monitoring programs.
- *Conservation Advice* (2016): complements the Recovery Plan, focusing on habitat protection, den site buffers, and predator control.
- *Threat Abatement Plans*: most relevant to quolls are those addressing predation by cats, habitat clearance, and roadkill.

These instruments establish that habitat loss and den disturbance are the most relevant threats in the context of transmission-line construction.

5.3.2 Ecology, Population Status and Demography

Ecology

The spotted-tailed quoll is Tasmania's apex marsupial carnivore. It requires structurally complex habitats providing both prey and denning sites (FPA, 2022).

- Habitat: wet and dry eucalypt forest, rainforest edges, coastal scrub, and rocky country.
- Den sites: hollow logs, caves, rock crevices, burrows and large tree hollows.

This dependence on secure dens and forest structure makes the species highly sensitive to habitat clearance.

Population Status and Demography

Population estimates show long-term decline, though exact current numbers are uncertain.

- Pre-European: ~12,000 individuals.
- 1990s: ~3,000 individuals (Jones & Rose, 1996).
- Troy 2014 - 5,691 (1,612–14,632 CI).
- Current: unknown, though patchy across northern and central Tasmania (DELWP, 2016).

The Recovery Plan (2016) concludes that without intervention, the population is unlikely to recover naturally.

Area of Occupancy and Distribution

The quoll's distribution is broad but fragmented, reflecting both habitat loss and naturally low densities.

- Area of occupancy: 15,000–25,000 km².
- Extent of occurrence: 60,000–65,000 km².
- Distribution: strongest in forested regions; scarce in intensively farmed landscapes.

This fragmented distribution heightens vulnerability to linear infrastructure impacts.

Home Range and Territory Use

Quolls require extensive ranges, particularly males, and rely on overlapping den networks.

- Males: 350–950 ha (50% kernel), 3,000–5,000 ha (95% kernel).
- Females: 150–400 ha (50% kernel).
- Den use: 1–2 maternal dens per season (DELWP, 2016).

Their need for large, connected ranges underscores the importance of retaining habitat connectivity.

Density

The species naturally occurs at low density, limiting resilience to localised impacts.

- Density: ~0.15 individuals/km² (Jones & Rose, 1996).

Even small additional mortality can disproportionately affect viability in fragmented landscapes.

Life History and Breeding

Quolls have short lives with early maturity, a strategy that partly offsets breeding cycle disruption. Nevertheless, den disturbance during a breeding season can therefore directly reduce local recruitment.

- Lifespan: ~3 years.
- Maturity: ~1 year.
- Breeding: 2–4 young weaned annually, dependent on secure den sites.

Uncertainty

Uncertainty remains a major consideration in quoll assessment.

- Current population size is poorly quantified.
- Dens are well disguised and easily missed in surveys (Lyall, 2018).
- Regional productivity varies with prey and predator dynamics.

The Recovery Plan (2016) highlights that knowledge gaps necessitate precautionary approaches to development impacts.

5.3.3 Findings and Relevant Impacts

Although no quolls or active dens were recorded during project field surveys, the species is known to occur locally (Lyall, 2018). Evidence includes a sighting by a landholder (Nov 2021) within the Sheffield–Burnie section, two scat records within the disturbance footprint of the Burnie–Hampshire Hills section and one NVA record within the proposed Hampshire Hills switching station property.

213ha of the AoD is suitable forested habitat including 140 ha of potential denning habitat.

Relevant Impacts

Denning Habitat

The EIS identifies that the 213ha includes 140ha of potentially suitable denning habitat that will be cleared or modified, and this habitat is similar to the Tasmanian devil denning habitat but also includes rainforest.

The Commission's breakdown of modification to denning habitat includes:

- 38.8ha to ground level – that represents a:

- conversion (permanent loss) of 26ha comprising 22Kv distribution lines (1.5ha), access tracks (15.5), tower pads and vegetation clearance area (10.8ha).
- functional loss of habitat for existing dens of 12.8ha comprising winch, drum and break sites (6.1ha) and outside tower pad vegetation clearance area (6.7ha), that can be rehabilitated to a modified state.
- 71.5ha to ground cover – partial clearance that reduces denning habitat quality.
- 29.2ha to mid-storey – partial clearance that reduces denning habitat quality.

The Commission notes it's consideration of conversion of denning habitat and functional loss of existing denning habitat discussed for Tasmanian devils is applicable to Spotted-tailed quolls (see section 6.2.2, above)

Foraging habitat

The EIS identifies Spotted-tailed Quoll foraging habitat is essentially the same as that for the Tasmanian devil.

The Commission's breakdown of modification to foraging habitat includes:

- 59.2ha cleared to ground level comprising:
 - Conversion of 25ha for 22kV distribution lines and access tracks, that is not a functional loss, as Spotted-tailed quolls use linear features for movement.
 - Conversion of 26.4ha for tower pad laydown areas noting 10.3ha is temporary clearance outside tower pad vegetation clearance areas, that can be rehabilitated to a modified state.
 - Temporary clearance 7.8ha for winch, drum and break sites, 4.5ha that can regenerate to ground cover and 3.3ha outside the easement that can fully regenerate.
- 126.6ha cleared to ground cover is permanent partial clearance but still suited to foraging. Noting 55.1ha is plantation.

29.5ha mid-storey partial clearance represents a permanent reduction in canopy but is still suited to foraging.

The Commission considers that foraging habitat that is cleared to ground cover, or ground level that can rehabilitate to ground cover is modification of foraging habitat. While the Spotted-tailed Quoll has been historically considered forest dependent, in Tasmania its habitat use is more flexible with use of fragmented and agricultural landscapes (Troy, 2014; Henderson et al., 2022;2023)

The Commission notes that while plantation forest has been included as habitat the Spotted-tailed quoll has been more recently been found to avoid plantations (Lyll, 2016 and Jones et al., 2023).

The Commission considers Table 8, in section 6.1.2, that lists native vegetation modification, to be a more accurate reflection of the impact on Spotted-tailed quoll habitat.

The Commission notes as with the Tasmanian devil, Spotted-tailed Quolls use linear features such as roads in movement and foraging (Anderson et al., 2017).

Roadkill

Spotted-tailed quolls are also susceptible to road mortality, particularly between dusk and dawn. A traffic assessment was conducted for the routes proposed for use during project construction and increases in night (high risk) traffic associated with the proposal were predicted to increase by more than 10%.

Significant Impact Assessment

The Commission's SIA against the *Significant Impact Guidelines 1.1 2013* is set out in Appendix 2, along with additional discussion of impacts and mitigation in section 6.

5.4 Eastern Quoll (*Dasyurus viverrinus*)

5.4.1 Conservation Status

The Eastern Quoll was listed as Endangered under the EPBC Act in December 2015 following documented declines across Tasmania, its last natural refuge after extinction on mainland Australia in the mid-20th century (Woinarski et al., 2014). The key reasons for listing were:

- (i) evidence of severe ongoing population decline since the early 2000s
- (ii) threats from predation by feral cats and dogs
- (iii) sensitivity to stochastic weather events, and
- (iv) habitat loss and degradation (Threatened Species Scientific Committee 2015).

The listing recognised that although the Tasmanian population is still widespread, its abundance had declined sharply in many regions.

The key threats in the transmission-line context are habitat loss and fragmentation, den disturbance, and roadkill.

EPBC instruments

The Approved Conservation Advice (TSSC, 2015) sets out the species' status, distribution and threats. A national Recovery Plan has not been adopted, but the Conservation Advice provides key management priorities. Threat Abatement Plans for predation by feral cats are relevant.

5.4.2 Ecology, population status and demography

Ecology

Eastern Quolls are medium-sized carnivorous marsupials that occupy a mosaic of native grasslands, grassy woodlands, open forests, pasture edges and rough farmland but is typically absent from large tracts of wet eucalypt forest and rainforest (Fancourt, 2015). Quolls may also den within plantations for silviculture if there are windrows present (Jones et al., 2023). They are nocturnal foragers, consuming invertebrates, small vertebrates and carrion, and by day retreat to dens in burrows, rock piles, hollow logs, tree hollows, and occasionally farm buildings (Godsell, 1983; FPA, 2025). The open-and-cover juxtaposition is essential: they forage in open areas but depend on dense cover or den sites for shelter and breeding. In transmission-line corridors, clearing of coarse woody debris, rocky refuges and hollow logs removes important potential denning habitat, while simplification of edge vegetation can elevate predation risk.

Population status and Demography

At the time of EPBC listing, the total Tasmanian population was estimated at >10,000 mature individuals, extrapolated from spotlight surveys and expert judgment (TSSC,

2015). However, long-term spotlight monitoring shows sharp declines, particularly from 2001–2003 onward, with contraction in eastern and central Tasmania (Fancourt et al., 2018). Some local refuges persist at higher densities (e.g., Bruny Island, certain north-eastern landscapes), but statewide abundance remains well below historic levels.

Fancourt (2016) conducted a contextual review of threats and causes of decline in eastern quoll populations. The study concludes that prolonged adverse climatic periods triggered a sudden population collapse, pushing eastern quoll numbers to unusually low levels.

Fancourt (2015) noted that the rapid population decline following adverse climatic conditions, had not seen a rebound in population when conditions were suitable and suggests that cats may be contributing to declines and inhibiting recovery through either predation (particularly of juvenile quolls) and/or competition.

The key proposition is that climatic extremes acted as the proximate *cause* of the sharp decline, while other threats acted as limiting *factors* preventing recovery.

Fancourt (2015) considered that recovery of the species was unlikely without intervention, noting a focus on further work in feral cat control and insurance populations.

Fancourt (2015) did note habitat loss and non-targeted poisoning to be highly likely agents in causing decline or preventing recovery, noting they may act in combination with other factors.

Area of occupancy and distribution

The species' Extent of Occurrence (EO) covers much of Tasmania, but the Area of Occupancy (AO) is fragmented. The modelled AO's smooth the data to extend record footprints.

- AO (NVA record footprint using 2km grid): ~6,400 km².
- Historical peak AO (modelled): ~11,500 km² (Cunningham et al., 2023).
- Recent AO (modelled): ~3,750 km² (Cunningham et al., 2023).

Distribution is broadest in lowland grassy and agricultural mosaics. Climate modelling indicates vulnerability to shifts in rainfall and temperature (Fancourt 2016), with likely persistence only in refugial habitats unless threats are abated.

Home range and territory use

Eastern quolls are not territorial and maintain small home ranges (mean 35ha females, 45ha males). Many individuals home ranges may overlap.

Multiple day dens are used in rotation. Pouch-young transfer to den sites in August–September (Godsell 1983; FPA 2025).

Density

Historical descriptions refer to the Eastern Quoll as “widespread and abundant,” but contemporary spotlight indices show declines to less than 20% of 1990s levels in many regions (Fancourt et al., 2018). Local densities can still be high in predator-free or lightly predated areas, but for most of Tasmania the species occurs at low to moderate density.

Life history and breeding

Strongly seasonal, polygynous–promiscuous breeding system.

- Females breed from 1 year old but often live only 2–3 years.
- Breeding season: Late May–early June.
- Gestation & litters: Gestation (~19 days). Up to six young survive to weaning.
- Weaning & independence: Young remain in the pouch for 8–10 weeks, then are transferred to maternal dens and weaned at 18–20 weeks (spring). Juvenile dispersal occurs in November–December.
- Species with high fecundity and early maturity generally have higher intrinsic rates of population increase and may recover rapidly following short-term demographic perturbations (Begon et al., 2006).
- Life-history traits such as these are widely interpreted as adaptations to variable or unpredictable environments, such as described by Fancourt, allowing populations to recover rapidly when conditions are favourable despite periodic recruitment failure (Pianka, 1970; Begon et al., 2006).

Uncertainty

Population size and density estimates are uncertain and so assumed to be low with strong regional variation. Detectability in surveys is low outside breeding season. Absence of detections should not be taken as absence. Pre-clearance den searches and adaptive management are essential.

5.4.3 Findings and Relevant impacts

As a short-lived, den-dependent mesopredator undergoing statewide decline, the Eastern Quoll is highly sensitive to incremental losses. Removal of logs, rocks or burrows used for denning within a transmission corridor may displace breeding females or cause litter loss. Added mortality from construction traffic could materially worsen local declines.

No Eastern quolls or dens were recorded during the field surveys. The EIS considered there is potentially suitable eastern quoll foraging habitat and denning habitat within dry eucalypt forest and woodland, native grasslands, plantations and a mosaic of

agricultural land that is interspersed with patches of native vegetation. Eastern quolls also may use linear easements and roads for movement corridors within forest and plantation landscapes.

The proposal will cause loss of coarse woody debris, rocky refuges, and grassy–shrubby mosaics thus reducing den and shelter availability. It may cause den disturbance or destruction by excavation or vegetation clearing.

Denning habitat

The EIS identifies, there are 89ha of denning habitat that will be modified and that 65.4ha of partial clearance may still be utilised for denning.

The Commission's breakdown of modification of denning habitat includes:

- 27.6ha to ground level – that represents a
 - conversion (permanent loss) of 18.2ha comprising 22Kv distribution lines (1.5ha), access tracks (9.7ha), tower pads and vegetation clearance area (7.0ha).
 - functional loss of habitat for existing dens of 9.4ha comprising winch, drum and break sites (4.5ha) and outside tower pad vegetation clearance area (4.9ha), that can be rehabilitated to a state suitable for foraging.
- 47.4ha to ground cover – that reduces denning habitat quality
- 15.1ha to mid-storey – that reduces denning habitat quality.

The Commission notes it's consideration of conversion (permanent) loss of denning habitat and functional loss of existing denning habitat discussed for Tasmanian devils is applicable to Eastern quolls (see section 6.2.2, above)

Foraging habitat

The EIS identifies there is 91ha of native foraging habitat that will be cleared but is argued to not materially impact the area of foraging habitat because although the quality of the foraging habitat will be reduced the quolls can still use it. The Commission notes that Eastern quolls use plantations (Jones et al, 2023)

The Commission's breakdown of modification on native and plantation foraging habitat includes:

- 48.6ha cleared to ground level comprising:
 - Conversion of 19.5ha for 22kV distribution lines and access tracks.
 - Conversion of 22.8ha for tower pad laydown areas noting 8.5ha is outside tower pad vegetation clearance areas that can be rehabilitated to a modified state.

- Temporary conversion of 6.3ha for winch, drum and break sites, 4.1ha that can regenerate to ground cover and 2.2ha outside the easement that can fully regenerate.
- 102.5ha partial clearance to ground cover is permanent conversion but still suited to foraging. Noting 55.1ha is plantation.
- 15.4ha mid-storey partial clearance represents a permanent reduction in canopy but is still suited to foraging. Eastern quolls are associated with dry grassland and forest mosaics bounded by agricultural land and its common prey are invertebrates, particularly agricultural pests (TSSC, 2015). They have a preference for open habitat (Jones et al., 2023), and the Commission considers that clearing to ground cover does not materially change opportunities for the Eastern quoll to forage and access invertebrates.

Significant Impact Assessment

The Commission finding against the *Significant Impact Guidelines 1.1 2013* is set out in the SIA at Appendix 2, along with additional discussion of impacts and mitigation in section 6.

5.5 Eastern Barred Bandicoot (*Perameles gunnii gunnii*)

5.5.1 Conservation Status

The Tasmanian subspecies of the Eastern barred bandicoot was listed as Vulnerable under the EPBC Act in 2008. Reasons for listing include extensive historical loss and fragmentation of native Midlands grasslands (the core pre-European habitat), ongoing habitat degradation in agricultural landscapes, predation by cats and dogs, roadkill, and episodic climatic events (DEWHA, 2008). While still relatively widespread in Tasmania, the subspecies persists in patchy, low-density populations vulnerable to incremental habitat loss.

EPBC instruments

- Approved Conservation Advice (DEWHA, 2008) — identifies threats (habitat loss, predation, road mortality, inappropriate grazing and burning regimes).
- No national Recovery Plan is in force for the Tasmanian subspecies; conservation measures are guided by Tasmanian Threatened Species Link profiles and regional habitat management strategies.
- Threat Abatement Plans for predation by cats and foxes are relevant to a transmission-line corridor and roadkill risks.

5.5.2 Ecology, population status and demography

Ecology

The Tasmanian Eastern barred bandicoot is primarily associated with native tussock grasslands and grassy woodlands of the Midlands but has expanded into and now persists within modified agricultural landscapes across the southeast, northeast and northwest (Mallick et al., 1997; DEWHA, 2008). Habitat suitability depends on a fine-grained mosaic:

- Foraging areas: open grassland or pasture, where bandicoots dig conical pits to extract soil invertebrates.
 - Sign evidence includes diggings and scats.
- Shelter/nesting cover: dense low vegetation such as tussock grasses, blackberry thickets, bracken, hedgerows, and drainage-line scrub.
 - Nests are difficult to detect but animals may be flushed from the cover.
- Edge habitat: the juxtaposition of open ground with dense cover is critical, especially for nesting and predator avoidance.

Population status and Demography

The subspecies is endemic to Tasmania. No precise statewide population estimate exists, but it remains patchy and at lower densities than historical baselines. The

Midlands grasslands have been reduced to <10% of their pre-European extent (Kirkpatrick et al., 1995). Local populations persist in agricultural mosaics, but abundance can be limited by predation and loss of dense cover.

Area of occupancy and distribution

- Extent of Occurrence (EO): broad, covering much of eastern and northern Tasmania.
- Area of Occupancy (AO): highly fragmented, with strongholds in lowland agricultural landscapes where cover remains.
- Absence from much of the historical Midlands core reflects clearance of native grassland and heavy grazing pressure.

Home range and territory use

Eastern barred bandicoots are largely solitary, with overlapping ranges. Home ranges are typically 2–5ha for females and males around 4ha (Mallick et al., 2000) up to 20ha (Heinsohn, 1966; Seebeck et al., 1990). Within this range, individuals use multiple grass-nest sites constructed from vegetation in dense cover. Nest switching is common.

Density

Densities vary with habitat. In good pasture–cover mosaics, local densities may exceed 3–5 individuals/ha, while in fragmented or intensively grazed landscapes densities are much lower. Overall, populations are considered sparse relative to habitat availability due to predation pressure and mortality.

Life history and breeding

The species is short-lived, with few individuals surviving beyond 2–3 years. Females can breed in their first year and produce up to 3–4 litters annually, with 2–4 young per litter (Seebeck et al. 1990). High fecundity enables rapid local recovery if adult mortality is reduced, but this same life history means populations are highly sensitive to additive adult deaths.

Uncertainty

Population size is uncertain at a statewide scale, but regional studies confirm patchiness and dependence on cover availability. Detectability in open pastures is low. Because significant nesting cover can occur in apparently minor features particularly in cleared agricultural landscapes (e.g. blackberry patches along drains), precautionary habitat retention is warranted.

5.5.3 Findings and Relevant impacts

The species is confirmed present within the survey area.

Along the project alignment, improved pasture interspersed with patches of native bush provides suitable habitat for the Eastern barred bandicoot. The species depends on

mosaics of pasture and remnant bushland, with dense ground cover such as tussocks scrub and weed species such as gorse and blackberries for denning and shelter from predators

The Ecology Report and EIS conclude that vegetation clearing within the AoD is unlikely to significantly impact the broader mosaic of pasture and native vegetation preferred by the species. Accordingly, the species is assessed as unlikely to be significantly impacted even in the absence of mitigation measures.

The Commission accepts these finding and considers that a SIA against the significant impact criteria is not warranted in the context of the action.

The species is considered secure in Tasmania and is not listed as threatened under the Tasmanian *Threatened Species Protection Act 1995*.

The Commission considers that while the action will not have a significant impact on this species a precautionary approach to include this species in the requirements for roadkill mitigation and avoiding disturbance to dense patches of ground and understorey habitat is appropriate.

5.6 Wedge-tailed Eagle (*Aquila audax fleayi*)

5.6.1 Conservation Status

Listing status, timing, and reasons

The Tasmanian wedge-tailed eagle is listed as Endangered under the EPBC Act due to a small, isolated population, very low productivity, and high sensitivity to disturbance and avoidable mortality (Brown & Mooney, 1997; Brown, 2006; Mooney, 2005).

- **Status:** Endangered (since 2000).
- **Key reasons:** low breeding output, nesting disturbance, loss of mature nest trees, and collision/persecution risks (Brown, 2006; Mooney, 2005). In combination, these factors mean even modest, local increases in disturbance can have population-level consequences.

Relevant EPBC instruments

The national framework is anchored by the Recovery Plan 2006–2010 (TSS, 2006; Brown 2006).

Tasmania's FPA nest management guidelines translate these and other research into operational prescriptions and spatial decision support, designed for use through Tasmania's Forest Practices System.

- FPA Technical Note 1 (Eagle nest management): nest reserves/activity-based buffers/seasonal restrictions and survey/decision protocols tailored for forestry and infrastructure (FPA TN1).
- FPA nest-site habitat model: GIS model predicting high-suitability nesting habitat to prioritise survey effort and route refinement (FPA Habitat Model).

Together, these instruments and management guidelines support an avoid–minimise–mitigate hierarchy.

5.6.2 Ecology, Population Status and Demography

Ecology

The subspecies nests almost exclusively in tall, mature eucalypts in relatively undisturbed forest patches, typically on sheltered slopes with good launch aspects and nearby open foraging (Mooney, 2005; Brown, 2006). Because suitable nest trees are scarce they are repeatedly re-used, protection of each nesting area is disproportionately important.

- Critical features: large nest trees + surrounding forest; minimal disturbance during breeding (FPA TN1).
- The FPA habitat model highlights ridge/valley settings and mature forest polygons most likely to hold nest trees (FPA Habitat Model).

Population status and Demographics

Tasmania supports a small breeding population with some unpublished evidence that the population is recovering following persecution. Some recent nesting attempts are in previously avoided locations closer to human activity (Mooney pers. Comm.)

- ~220 breeding pairs in the 1990s (Brown & Mooney, 1997); ~1,000 individuals circa mid-2000s (Mooney, 2005) with likely 400 territories.
- Productivity remains low and variable, with disturbance a key limiting factor (Brown, 2006).

Area of occupancy and distribution

Although statewide in extent, the Area of Occupancy is effectively constrained by the distribution of suitable nest trees and secure forest buffers (Brown 2006).

- Area of occupancy (indicative): ~22,000km² (c. 400 territories × ~55km²).
- Extent of occurrence: statewide (Mooney, 2005).
- Pattern: sparser in heavily cleared districts; clustered in forested catchments (FPA Habitat Model).

Home range, territory use, and density

Breeding territories are large and defended, with several alternative nests maintained per territory (Brown 2006; Mooney 2005).

- Pair home range: ~55km²; density: ~0.02 birds/km² (Brown & Mooney, 1997; Mooney, 2005).
- Nest use: single nest used in a season; others retained as alternates (Brown, 2006).
- Balance of non breeding population includes young adults that will take up vacant territories.

Life history and breeding

A long lifespan is offset by **very low productivity** and high sensitivity to disturbance.

- Lifespan: ~25 years; generation length: ~18 years (Mooney, 2005).
- Productivity of population: ≈0.5 fledglings per pair per year in good years (Brown 2006; Mooney 2005).
With such slow replacement, prevention of breeding failure is the primary lever for population stability.

Uncertainty

Key uncertainties include **completeness of nest inventories**, **nest activity status** year-to-year, and **model omission errors** in unmapped high-suitability patches (FPA TN1; FPA Habitat Model) and population size and productivity trend.

- **Response:** apply the habitat model corridor-wide to flag high-suitability polygons; undertake targeted aerial/ground checks pre-season and confirm activity status in-season (FPA TN1).
- **Precaution:** treat unmapped but suitable mature forest near ridges/valleys as potential nesting habitat until surveyed (FPA Habitat Model).
This reduces the chance of “cryptic” nest disturbance during construction.

5.6.3 Findings and Relevant Impacts

Findings

Surveys between 2019 and 2024 identified a total of 27 eagle nests. Nine nests have been recorded within 500m of the AoD and 16 more between 500 metres and 1km within line of sight. Nest activity assessments in 2021 and 2022 confirmed seven nests as active. While others were inactive or showed mixed activity between years the use of nests is a dynamic process and so others may be active in the future if not disturbed.

Relevant impacts

Nest Disturbance

Construction noise, helicopter stringing, or repeated presence within recommended seasonal buffers may cause breeding failure (FPA TN1).

The project alignment places a number of eagle nests near construction areas, creating a high risk of disturbance during breeding.

Nine nests have been recorded within 500m of the AoD and 16 more between 500m and 1km of the AoD. Seven nests were recorded as active and visible from construction activities including permanent tracks and TL towers. Other viable and visible nests may be active in future seasons.

Habitat Loss

In addition to direct nest disturbance, the project will clear approximately 30.4ha of potential nesting habitat to some degree.

When considered cumulatively, the high density of nests near the alignment, the presence of multiple active nests, and number of visible towers present a risk to breeding success.

Electrocution

TasNetworks EIS considers that the risk of electrocution is very low for eagles and other large birds, with past records showing only a handful of cases, and most incidents have occurred on smaller local power lines rather than large transmission lines.

The Commission understands this is due to the transmission line conductors being greater than the wingspan of eagles.

Collision

The Commission notes that collision poses a greater risk than electrocution, particularly where birds may strike overhead wires. Juvenile/dispersing birds are most vulnerable (Mooney, 2005).

The Commission notes that while incidents have been recorded, they are rare and often go undetected, likely due to poor survey effort along large transmission lines.

The Commission considers that the risk of collision is higher in areas of new alignment where birds are less familiar with infrastructure, particularly in proximity to nesting sites such as the East Cam to Hampshire Hills section of the transmission line.

Conclusion

- A significant number of nests have been modelled to be within line of sight of the project footprint and seven of those were active during survey years.
- Electrocution is very unlikely to be a significant issue.
- Collision is the more important concern than electrocution.

Significant Impact Assessment

The Commission finding against the *Significant Impact Guidelines 1.1 2013* is set out in the SIA at Appendix 2, along with additional discussion of impacts and mitigation in section 6.

5.7 Tasmanian masked owl (*Tyto novaehollandiae castanops*)

5.7.1 Conservation Status

The Tasmanian masked owl is listed as Endangered under the EPBC Act (since 2000), reflecting its small and declining population, estimated at fewer than 1,000 breeding pairs (Garnett & Crowley, 2000). Primary reasons for listing include (i) loss of old-growth hollow-bearing trees for nesting, (ii) habitat fragmentation reducing prey availability, and (iii) disturbance and secondary threats such as collisions (Todd, 2012; Young et al., 2020).

Relevant EPBC instruments

- Approved Conservation Advice (DEWHA, 2010) identifies hollow-tree availability and prey base as critical limiting factors.
- No national Recovery Plan has been finalised, but state management relies on DPIWE threatened species notes and the Forest Practices Authority management guidelines (Forest Practices Authority, 2014) developed using the results of ecological studies (Todd, 2012; Todd et al., 2018; Cisterne et al., 2020).
- Threat Abatement Plans relevant to this action include those for feral cats and habitat loss, but in a transmission-line context, the dominant threats are loss of nest trees and disturbance within territories.

5.7.2 Ecology, population status and demography

Ecology

The Tasmanian masked owl is a large nocturnal raptor, endemic subspecies of the Australian Masked Owl. Its core habitat requirement is large, hollow-bearing eucalypts, generally >150 years old, which provide essential nesting and roosting cavities (Todd, 2012). Foraging occurs in mature native forest with open understorey or partially open habitats including farmland edges, native grasslands, and forest–farmland mosaics, where prey (such as, rats, rabbits, bandicoots, possums) is most available (Young et al. 2020; Todd et al., 2025). Transmission-line corridors may intersect both foraging and nesting habitats. The greatest risk lies in the removal of **mature hollow-bearing trees** that can serve as nest sites. Even isolated trees in paddocks are highly significant in otherwise cleared agricultural landscapes (Todd, 2012).

Population status and Demography

Historical distribution was across most lowland Tasmania, but clearing of native forest and removal of large trees have greatly reduced numbers. Garnett & Crowley (2000) estimated **<1,000 breeding pairs**, and more recent data suggest numbers remain low,

fragmented across the north, east, and south-east (Todd, 2012). Current population size remains uncertain but is considered **stable at low levels** if nest trees are retained.

Area of occupancy and distribution

The subspecies' Extent of Occurrence is the lowland and coastal fringe of Tasmania. The Area of Occupancy is fragmented, closely tied to the distribution of large eucalypts with hollows. Territories are maintained year-round by pairs (Todd et al., 2018).

Home range and territory use

Telemetry studies show female home ranges average ~1,500 ha (Todd, 2012), while males may range further. Home ranges incorporate both nesting hollows in forest and foraging areas in open farmland. Pairs are territorial, and territories remain stable across years. Nest site fidelity is high, with repeated use of the same hollow over decades (Todd, 2012).

Density

Density is low, estimated at <1 pair per 10–20 km², reflecting the scarcity of suitable hollows (Todd, 2012; Young et al., 2020). This makes each breeding territory ecologically significant in a statewide context.

Life history and breeding

Masked Owls are long-lived (lifespan >10 years in the wild), with a generation length of ~6–10 years (Todd, 2012). They breed annually if prey is abundant, typically raising 1–2 young. Breeding is highly dependent on secure access to large nesting hollows; removal of even a single hollow-bearing tree can eliminate a pair's capacity to reproduce (Todd, 2012).

Uncertainty

The number of occupied territories and breeding pairs is not precisely known. Hollow availability is difficult to map, especially in agricultural landscapes where isolated trees are not comprehensively surveyed.

5.7.3 Findings and Relevant Impacts

TasNetworks ecology report and EIS reported ninety NVA records of the Tasmanian masked owl within 5km of the project corridor, with the most recent west of Westbury and northeast of Deloraine. Two records fall within the survey area: one near PM-SH T165 from 1950 with low spatial accuracy, and another between BU-HH T16–T17 from passive acoustic monitoring in March 2023. Three historic nest records occur within 5km, the nearest being nest #631, over 4km north of the PM-SH section, recorded in 1996.

Field verification of field records and following appropriate desktop analysis assessed 46 patches of potential masked owl nesting habitat. Only one 0.36ha patch within the

AoD; near BU-HH T16–T17 was deemed potentially suitable (EIS Part E Map Series Figure 10.10 Map 10 of 17).

Acoustic monitoring over 22 nights confirmed owl screeches. In October 2023, targeted searches with tree climbing along 1km of alignment found no evidence of nesting or hollow use within 150m of the easement.

Relevant impacts

The main potential impact on the Tasmanian masked owl is habitat loss and especially large hollow-bearing trees. Up to 0.36ha of such trees may be cleared in a 0.66ha patch near proposed towers BU–HH T16–T17, possibly removing nest trees or disturbing breeding if an active nest lies within 150m.

The Commission notes that while TasNetworks extensive surveys found no evidence of owl nesting in this area, Masked owls are known to change nest trees on occasion and so absence in one year does not reliably mean absence in the future.

TasNetworks identify that injury or electrocution from OHTL collisions is a low risk: only one owl collision recorded on Tasmanian distribution lines in past 7 years, and none on OHTLs, noting that the conductor spacing exceeds the owl's 128cm wingspan, further lowering risk. The Commission notes that this low recording may be influenced by low survey effort, and there is scant evidence to evaluate risk.

The Commission notes and accepts TasNetworks view that rodenticide exposure is also unlikely to be significant, given widespread existing use across agricultural landscapes. However, the Commission considers that TasNetworks proposal to only use non-anticoagulant rodenticide baits is an appropriate precautionary approach to adopt.

The Commission accepts TasNetworks' findings and considers the action is unlikely to have a significantly impact on the Tasmanian masked owl. The Commission considers that a SIA is not warranted in the context of the action.

The Commission acknowledges the temporal use of nesting sites by the species, and considers a precautionary approach requires the presence of utilised nest or roost trees within 150m of works to be confirmed or proven absence prior to commencement of works, and for works to prevent disturbance of breeding.

5.8 Swift Parrot (*Lathamus discolor*)

5.8.1 Conservation Status

The swift parrot is a migratory nectarivorous parrot that breeds only in Tasmania and winters on mainland south-eastern Australia. It is listed as Critically Endangered under the EPBC Act, uplisted in 2016 due to rapid and ongoing declines (DCCEEW, 2024). Key drivers of this decline are the loss and fragmentation of breeding habitat, particularly blue gum (*Eucalyptus globulus*) and black gum (*E. ovata*) forests, and exceptionally high rates of nest predation by introduced sugar gliders (*Petaurus breviceps*). Additional pressures include disturbance and competition for nesting hollows.

- Status: Critically Endangered (EPBC, 2016).
- Drivers: Habitat loss/fragmentation; sugar glider predation; causing low reproductive output.

The listing reflects the species' precarious position: a small and declining population, compounded by low productivity and severe predation pressures, makes recovery highly challenging.

Relevant EPBC Instruments

National conservation guidance is provided through the Recovery Plan for the Swift parrot (DEWHA, 2006; DCCEEW, 2024) and the Conservation Advice (TSSC, 2016). These emphasise retaining and managing blue gum and black gum forests for blossom and nesting hollows, reducing sugar glider predation, and applying strict disturbance buffers around nests during breeding.

The instruments collectively stress that successful recovery depends on both habitat retention and predator management, particularly given the spatiotemporal dynamic of blossom-driven breeding ecology.

5.8.2 Ecology, Population status and Demography

Ecology

Swift parrots track variable flowering of *E. globulus* and *E. ovata* during the breeding season, nesting only where abundant blossom coincides with suitable hollows (Webb et al., 2014). Productive habitats include dry and wet eucalypt forests in eastern and southern Tasmania, often within mosaics of farmland and woodland.

- **Habitat focus:** Blue gum and black gum forests (TasVeg DGL, DOV).
- **Critical need:** Co-occurrence of nectar resources and hollow-bearing trees.
- **Constraint:** Limited supply of suitable hollows and variability of blossom.

The habitat bottleneck of hollows plus blossom makes many landscapes unsuitable in most years, forcing the population into shifting local concentrations.

Population Status

Population estimates indicate a steep decline, once thought to number several thousand, the species is now estimated at ~300–1,000 mature individuals (DCCEEW, 2024; Webb et al., 2014). Annual abundance at specific sites fluctuates with blossom intensity, but the trajectory remains downward due to predation and ongoing habitat attrition.

- **Size:** ~300–1,000 mature birds.
- **Trend:** Continuing decline.

Area of Occupancy and Distribution

Breeding is confined to Tasmania, with winter migration to Victoria, NSW, and occasionally Queensland (Higgins, 1999). The extent of occurrence exceeds 50,000km², but the functional AO is far smaller, shifting annually according to blossom. Mapping identifies core habitats of ~21,000ha (DGL), ~16,500ha (DOV), and ~6,800ha (WBR) (Tasveg 4) but the Swift parrot utilises many other widespread forest communities particularly post breeding.

- **Distribution:** Widespread potential, but concentrated where blossom peaks.
- **Area of occupancy:** Dynamic and patchy; linked to annual blossom.

Home Range, Territory Use, and Density

Swift parrots are nomadic during the breeding season, moving between flowering patches. At local scales, adults commute repeatedly between hollows and foraging trees (Webb et al., 2012). Densities vary from scattered pairs to local aggregations in mast flowering years.

- **Movement:** Landscape nomadism; localised nest–forage commuting.
- **Density:** Highly variable; locally concentrated in mast years.

Life History and Breeding

Swift parrots mature at ~2 years and live 10–12 years; generation length is ~6 years (BirdLife International, 2022). Breeding is annual, with clutches of 3–6 eggs, but productivity is curtailed by predation of females and eggs. Nest success has been measured at <20% in some sugar glider areas (Stojanovic et al., 2014).

5.8.3 Findings and Relevant Impacts

The Swift parrot is known to occur within the survey area, although it was not recorded during project field surveys. One NVA record exists south of Penguin, with further records across the broader study area. Breeding has been documented in the Gog Range, over 4km south of the proposed OHTL at Weegen, and 1.5km east at Heybridge. The SH–BU section lies within the species' northwest breeding range.

Foraging habitat in the survey area is limited and occurs mainly as *Eucalyptus ovata* forest and *Eucalyptus globulus* plantation:

E. ovata forest

- 2.3ha patch (degraded, not field-verified) – 0.56ha in survey area, 0.03ha in AoD, near PM–SH T46–T47.
- 1.54ha patch (verified, poor condition) – 0.04ha in survey area, none in AoD, near PM–SH T106.
- 5.1ha patch (verified, poor condition with holly/blackberry) – 0.06ha proposed clearance for track upgrade, near PM–SH T169.

E. globulus plantations

- Plantation north of BU–HH T6–T7 (<0.01ha clearance).
- Plantation between BU–HH T43–T45 (0.49ha clearance).

Breeding habitat is more restricted due to the species' reliance on suitable hollow-bearing eucalypts near foraging areas. While *E. ovata* forest and *E. globulus* plantations occur in the AoD, they are degraded and lack suitable nearby nesting hollows. Nearby regions such as the Gog Range and HB Spurs provide known nesting opportunities that will not be affected by the Action.

Relevant Impacts

- Proposed vegetation clearance within the survey area totals:
 - 0.06ha (verified) plus 0.03ha (if degraded *E. ovata* patch is confirmed).
- Potential foraging plantations will be minimally affected, with <0.01ha and 0.49ha impacted.
- Given the very small areas involved and their degraded quality, clearance is considered negligible in the broader landscape context.

Although the species occurs in the area and the survey area lies within its northwest breeding range, available habitat is limited, degraded, and affected only in very small patches. The EIS concludes that no significant impact is likely, even without mitigation.

The Commission accepts TasNetworks' findings and considers significant impact is unlikely as a result of the action, and a SIA is not warranted.

The Commission acknowledges the temporal use of foraging habitat, and considers a precautionary approach requires that vegetation clearance not occur in foraging habitat, if the species is present.

5.9 Tasmanian Azure Kingfisher (*Ceyx azureus diemenensis*)

5.9.1 Conservation Status

The Tasmanian subspecies of the azure kingfisher is listed as Endangered under the EPBC Act (effective from 19 August 2010) based on very low estimated numbers and ongoing habitat threats (DEWHA, 2010a).

- Status: Endangered under EPBC as *Ceyx azureus diemenensis* (DEWHA, 2010a).
- Reasons for listing: extremely small population (fewer than ~250 mature individuals), clearing and modification of riparian vegetation, and disturbance or loss of riverbank nest sites (TSS, 2012) Notable risks include:
 - Bank erosion/nest loss: excavation, vibration, or clearing near riverbanks may destabilise nest tunnels.
 - Disturbance noise: operations near nest clusters during breeding may suppress reproductive success.
 - Riparian vegetation removal: reduces shading, overhanging perches, and bank stability crucial to nesting and feeding.

Relevant EPBC Instruments

Unlike some species, the Azure Kingfisher currently does not have a formal national Recovery Plan; instead, its conservation is guided mainly by Approved Conservation Advice and state listing statements (DEWHA, 2010; TSS, 2012).

- Approved Conservation Advice (2010): provides priority habitat protection, management prescriptions, and threat mitigation.
- Threat Abatement Plans (TAPs): the feral cat TAP is relevant for predation context; habitat-clearance TAPs are directly applicable.
- Management prescriptions required under the Tasmanian Forest Practices Code ([Threatened Species Adviser | Forest Practices Authority](#))

Given the absence of a recovery plan, implementing the Conservation Advice is important to prevent further decline.

5.9.2 Ecology, Population Status and Demography

Ecology

The Tasmanian Azure Kingfisher is restricted to riparian zones of rivers predominantly in the north and west of Tasmania, favouring shady, overhanging vegetation in forested margins (TSS, 2012; DEWHA, 2010a). The species excavates a burrow nest in riverbanks usually near the top of a steep or sloping bank (DEWHA, 2010a). It prefers forested margins of rivers, especially where canopy and understory overhang the bank.

It feeds by plunge-diving for aquatic prey (fish, crayfish, insects) from overhanging branches and nests in burrows in riverbank soil (TSS, 2012).

Population Status and Demography

The population is extremely small and poorly quantified. The listing statement and state documents assert that it is thought to number fewer than 250 mature individuals (TSS, 2012).

It is likely the subspecies will continue to decline, with occasional local extinctions in degraded river systems. As the population is poorly qualified and is based on limited surveys, precaution is essential in impact assessments.

Area of Occupancy & Distribution

Its range is entirely within Tasmania, along river systems on south, west, north and northwest coasts, with scattered occurrences inland (TSS, 2012; SPRAT).

- **Area of occupancy:** is constrained to rivers with intact riparian vegetation with much of the habitat not occupied.
- **Extent of occurrence:** is the statewide riverine extent, but functional AO

Home Range, Territory Use & Density

Detailed studies of territory size or density are lacking for this subspecies. Observational evidence suggests nesting pairs often use the same burrow across years, and territories are maintained along stretches of river (TSS, 2012).

- **Territorial fidelity:** many pairs reuse nest tunnels and maintain bank stretches repeatedly.
- **Foraging–nest commuting:** birds commute locally between perches and water segments close to nest banks.

Life History & Breeding

The species breeds from approximately September to February; nests are in burrows drilled into riverbank soils (20–40cm tunnels feeding into a chamber) (TSS, 2012). Clutch sizes of **4–6 eggs** are typical.

- **Breeding behaviour:** both parents incubate and feed young; young fledge in ~22–28 days (TSS, 2012).
- **Mortality risk:** burrows may flood or collapse; nest success is highly sensitive to bank integrity and disturbance.
- **Gaps:** territory sizes, survival rates, true abundance.

5.9.3 Findings and Relevant Impacts

Findings

There are 12 records of *Ceyx azureus diemenensis* (Tasmanian azure kingfisher) from the River Leven (Sept 2009–Mar 2020) within 1.5km of the alignment crossing.

Field surveys (Apr 2022) found no suitable nesting habitat at the Leven crossing. The western bank, forming an unfenced cattle paddock boundary, is degraded and eroded with no riparian vegetation. The eastern bank, vegetated with native plants, lacks steep banks for nest excavation. At the existing transmission line crossing, riparian canopy vegetation remains.

While no suitable nesting habitat was found at the River Leven crossing there are suitable perches for hunting and so it is possible that the kingfisher is present from time to time.

The Guide River in the Burnie to Hampshire Hills section was not reported as habitat by TasNetworks but the Commission notes that it is likely to support suitable habitat despite the absence of records of the kingfisher.

The Commission notes that while the BU-HH transmission line crosses multiple streams including the Guide River there are no records of the species in the vicinity. TasNetworks did not report the suitability of the habitat.

Relevant Impacts

The Commission notes that in a forest-corridor or riverbank setting, potential impacts include disturbance to nesting banks, clearing of riparian vegetation, and interference with foraging links along watercourses.

The existing single-circuit 220 kV OHTL with 20m towers will be replaced by a double-circuit 220 kV OHTL with 37m and 42m towers on the eastern and western banks of the River Leven.

The Commission considers that the taller towers will require little or no additional clearing within the easement, avoiding impacts to the Tasmanian azure kingfisher.

The Commission considers that the crossing of the Guide River is considered the most likely to have potential for suitable habitat on the BU-HH section of transmission line. However, the Commission notes the Guide River will be overflowed by the Transmission line with no vegetation clearance proposed and considers no precautionary mitigating actions are necessary.

The Commission accepts TasNetworks' findings and considers a significant impact is unlikely as a result of the action, and a SIA is not warranted.

5.10 White-throated Needletail (*Hirundapus caudacutus*)

5.10.1 Conservation Status

The white-throated needletail is listed under the EPBC Act as Vulnerable and migratory and has extreme rarity of nesting records in Tasmania, (Garnett & Crowley, 2000; Taylor, 2012).

- **Status:** Vulnerable under the EPBC Act.
- **Key reasons:** The species has had substantial decline over the three generations (25 years), with breeding habitat loss (outside of Australia), loss of non-breeding habitat, collisions with windfarms and overhead lines and potential poisoning via insecticides as key threats.

Relevant EPBC Instruments

Conservation guidance is provided in the Approved Conservation Advice for *H. caudacutus* (TSSC, 2010).

Tasmanian TSPA listing statement and monitoring frameworks (Taylor, 2012).

5.10.2 Ecology Population Status and Demography

Ecology

The white-throated needletail is a migratory aerial insectivore that breeds in Asia and migrates to Australia, including Tasmania, during the austral summer. It does not breed in Australia but uses open habitats extensively for foraging.

- **Habitat use:** Forages aerially above forests, woodlands, ridges, and open farmland, often associated with thermals and updrafts.
- **Foraging ecology:** Highly mobile, taking flying insects while on the wing, frequently seen in large flocks in storm fronts or ridge lift.
- **Breeding context:** Breeds only in Asia (Russia, China); Australian habitats provide critical non-breeding foraging areas but not nesting sites.

Because the species relies on Tasmania solely for seasonal foraging rather than breeding, management considerations should focus on safeguarding airspace corridors and minimising collision risk with overhead structures rather than hollow-tree retention.

Population Status and Demography

Estimates of the Tasmanian population is extremely small, with surveys suggesting only **~200–400 mature individuals** (Taylor 2012).

- **Size:** estimated at ~200–400 mature individuals (Taylor, 2012).

- **Trend:** low stability and extremely vulnerable to site loss.
Because of its scarcity and cryptic nesting behaviour, each known nest site is important for viability.

Area of Occupancy (AO) & Distribution

The species has been recorded in Tasmania at scattered localities, (Garnett & Crowley, 2000).

- Area of occupancy: ~6,000 km² for Tasmania (Garnett & Crowley 2000).
- Extent of occurrence: 14,221 km² for Tasmania (Garnett & Crowley 2000).
- Distribution: patchy, with occurrences limited to a small number of localities.

Home Range, Movements & Density

Because they are almost constantly airborne, the species' occurrence is linked to weather and insect availability rather than fixed territories.

Detailed telemetry for White-throated needletails in Tasmania is lacking. However, observations indicate:

- Movements: wide-ranging and highly mobile, often moving tens to hundreds of kilometres daily while foraging (Tarburton 1993; Higgins 1999).
- Foraging behaviour: spend almost all time on the wing, feeding on aerial insects over forests, ridges, and coastal habitats.
- Density: varies greatly, sometimes seen singly or in small groups, but can form large flocks in favourable feeding conditions.

Life History & Reproduction (outside Australia)

The white-throated needletail breeds only in the Northern Hemisphere (Russia, China, Korea, Japan).

- Breeding sites: nests in tree hollows or cliff crevices in boreal and temperate forests (Chantler, 1999).
- Australian status: strictly non-breeding migrant; present October–April (Higgins, 1999; Garnett & Crowley, 2000).
- Longevity: up to 14+ years recorded in banded individuals (Tarburton, 2009).

5.10.3 Findings and Relevant Impacts

Findings

The species is a migrant in Australia during non-breeding season between October and April, thereafter, migrating to the northern hemisphere to breed. However, a high proportion of the species occurs in Australia, including Tasmania, as non breeding visitors (DoE, 2015b).

While the species was not recorded during field surveys for the project, it is known to occur in the study area, with several NVA records within 5km of the proposed OHTL. It is likely to be associated with most types of habitats in the AoD from time to time over open forest and agricultural land and may also fly between trees or in clearings.

Relevant Impacts

The EIS states that as the species is aerial in habitat and known to occur over a diversity of habitats in Tasmania, the species is not considered likely to be significantly impacted by the action.

The Commission notes that while vegetation clearing may impact on potential roosting opportunities, the commission considers that within the context of the extensive forested areas available this is unlikely to represent a significant impact.

The Commission notes that as needle-tails forage in fast, low-altitude flights along ridges and valleys; transmission lines and towers may increase collision hazard. However, the Commission notes there is poor evidence of mortality due to collision with transmission lines.

The Commission considers that cumulative effects from tall structures, in the species flight corridors presents an increased collision risk to flocks. However, flight corridors are ever shifting dynamic foraging routes (SPRAT, 2016) and so are difficult to predict or target for mitigation.

The Commission notes the dispersed nature of foraging in Tasmania, the comparatively small population in Tasmania, and poor evidence of transmission line collision mortality and considers in this context collision is unlikely.

The Commission considers a SIA is not warranted in the context of the action.

5.11 Giant freshwater crayfish (*Astacopsis gouldi*)

5.11.1 Conservation status

The giant freshwater crayfish (GFC) is endemic to northern Tasmania and is listed Endangered under the EPBC Act on the basis of marked range contraction, very slow growth rates and maturity to breeding, and continuing threats from riparian clearing, sedimentation, illegal take and barriers that fragment headwater habitats (Commonwealth of Australia, 2017; Horwitz, 1994).

Relevant EPBC instruments

The National Recovery Plan (Commonwealth of Australia, 2017) provides objectives, habitat prescriptions and monitoring priorities; applied research has informed the development of planning tools (e.g., juvenile habitat modelling) and management prescriptions (Davies & Cook, 2004; Davies et al., 2005e; Davies et al., 2007).

- Recovery focus: protect riparian vegetation and pool–riffle sequences; reduce fine sediment inputs; maintain connectivity and cool, well-oxygenated flows.
- Supporting guidance: juvenile habitat protection and catchment-scale suitability mapping to target protection/rehabilitation (Davies & Cook, 2004; Davies et al., 2005e; Davies et al., 2007).
- Management recommendations and guidelines for forest practices ([Threatened Species Adviser | Forest Practices Authority](#); Forest Practices Authority, 2013)

Taken together, these instruments prioritise avoidance and riparian restoration.

5.11.2 Ecology, Population status and demography

Ecology

The giant freshwater crayfish (*Astacopsis gouldi*) is endemic to northern Tasmania, occurring in rivers, streams, lakes, and connected dams (Threatened Species Scientific Committee, 2017). Its range extends from the Arthur River in the northwest across to the Ringarooma River in the northeast, encompassing all Bass Strait–flowing catchments except the Tamar. It inhabits cool, shaded streams and rivers up to ~400 m elevation, with adults using deep pools with wood and undercut banks, and juveniles preferring shallow, coarse-substrate riffles (Davies et al., 2005b; Davies et al., 2005c; Davies et al., 2005d; Horwitz, 1994; Webb & Richardson, 2004).

Critical habitat features:

Shaded riparian canopy, complex wood/pool structure, clean coarse substrates in riffles (Horwitz, 1994; Webb & Richardson, 2004).

Juvenile use of headwaters and adult use of pool habitats is a linked unit across each sub-catchment. This habitat split means that maintaining longitudinal connectivity and water quality across a sub catchment is important for species recruitment.

Protecting headwaters that have a high-density of juveniles (Davies et al. 2005d) is likely to yield outsized recruitment benefits.

Population status and Demography

The species persists across multiple northern catchments but at reduced abundance relative to historical distribution (Horwitz, 1994; Commonwealth of Australia, 2017).

Population size is estimated at fewer than 100,000 mature individuals, although this figure is not based on a census but derived from ecological assessment (Davies et al. 2005a, p. 55).

The species is declining where riparian clearing and sediment loads are high; and there are stronger subpopulations in well-forested catchments.

Area of occupancy (AO) & distribution (EO)

Using occurrence records intersected with the CFEV stream network provides an AO in the order of ~6,000 km² within an EO of ~14,000 km² for Tasmania's north (CFEV).

Home range and density

Adults show high site fidelity with movements punctuated by occasional longer excursions.

Radio-telemetry of adults has recorded periods of pool residency of 1–10 days interspersed with moves >700m in a night (Webb & Richardson, 2004).

Juvenile density: ~2.5km⁻¹ in higher-order/headwater classes to means of ~38 km⁻¹ in large streams/rivers (Davies et al., 2005e).

Life history & breeding

Longevity & generation length: up to ~60 years; generation length ≈ 30 years by IUCN method (Hamr 1996; Commonwealth of Australia 2017).

Maturity: females ~14 years and males ~9 years to first breeding.

Females typically breed biennially with ~225–1300 eggs proportional to size (Hamr 1996).

5.11.3 Findings and Relevant Impacts

Findings

Desktop analysis indicates that 412 river segments intersecting the AoD. These occur in 15 areas where field surveys determine potential juvenile or adult giant freshwater crayfish habitat are present in the following sections. (Figure 6.9 EIS).

- **PM–SH:** Minnow River, 2 Dasher River tributaries, and the Dasher River.
- **SH–BU:** 2 Forth River tributaries, Penguin Creek, Sulphur Creek and Parsons Creek.
- **HB Spurs:** one Blythe River tributary.
- **BU–HH:** Cooee Creek, 3 Guide River tributaries, and the Guide River.

Of 412 river segments intersecting the AoD, 213 are headwater streams (Class 4 Forest Practices Code). The habitat model (Davies et al., 2007) indicates that 53 are high and 7 medium quality habitat.

Relevant Impacts

In total 201 class 4 streams are in areas proposed for some vegetation clearance, including access track crossings cleared to ground level, and the transmission line cleared to ground cover or midstory. The EIS reports that without mitigation, the project could significantly impact the giant freshwater crayfish by clearing riparian vegetation and constructing access tracks at watercourse crossings. This may reduce the size and area of occupancy of important populations, fragment habitat, or disrupt breeding cycles if not adequately mitigated.

Construction near crossings poses the greatest potential for impact on the species, with erosion and sedimentation degrading headwater streams—the main juvenile habitat.

Summary of impacts:

- Clearing riparian vegetation reduces and fragments habitat.
- Watercourse crossings cause erosion and sedimentation, degrading habitat for the species.
- Headwater streams, critical for juveniles, are especially vulnerable.
- Elevated sediment and temperature (due to removal of riparian shading) directly impairs habitat suitability.

Significant Impact Assessment

The Commission's finding against the *Significant Impact Guidelines 1.1 2013* is set out in the SIA at Appendix 2, along with additional discussion of impacts and mitigation in section 6.

5.12 Burnie Burrowing Crayfish (*Engaeus yabbimunna*)

5.12.1 Conservation Status

The Burnie Burrowing Crayfish is a range-restricted, terrestrial crayfish endemic to north-west Tasmania. It is listed Vulnerable under the EPBC Act due to an extremely small Area of Occupancy, exposure to urban/peri-urban threats, and ongoing habitat degradation (TSSC, 2021; DEH, 2001).

- Status: EPBC Vulnerable (most recent federal advice 3 Oct 2021) (TSSC, 2021).
- Rationale: tiny area of occupancy, habitat loss/fragmentation, hydrological alteration, water-quality decline (TSSC, 2021; DEH, 2001).

These factors indicate that even small, localised impacts can carry population-level significance.

Relevant EPBC instruments

Federal guidance is provided by the Burrowing Crayfish (*Engaeus*) Group Recovery Plan 2001–2005 and the TSSC Conservation/Listing Advice; distribution screening and field protocols are outlined in the Draft EPBC Referral Guidelines (DEH, 2001; DAWE, 2011; TSSC, 2021).

- Recovery priorities: safeguard seep/soak habitats, maintain groundwater/surface hydrology, and manage earthworks and pollutants (DEH, 2001).
- Screening & survey: modelled distribution around Burnie and decision points for avoidance/confirmation surveys (DAWE, 2011).

Together, these instruments support early avoidance, conservative buffers, and rigorous erosion-sediment control.

Key issues relevant to this transmission-line proposal

Corridor works, pads and access tracks can intersect seepage lines, wet ground and stream verges that support burrow fields (TSSC, 2021; TSS, 2024).

The key features of these activities that have the potential to impact on the species include:

- Ground disturbance/compaction: collapses chimneys/tunnels and can dewater soils.
- Hydrology/water quality: culverts/drains may divert baseflows and increase fines/nutrients into burrow patches.

With such a small area of occupancy, route refinement and micro-siting near mapped/modelled habitat provide the greatest risk reduction.

5.12.2 Ecology, Population Status and Demography

Ecology

The Burnie Burrowing Crayfish (*Engaeus yabbimunna*) is one of Tasmania's specialised terrestrial burrowing crayfish, an evolutionary lineage distinguished by its reliance on saturated soils rather than open water for survival. Endemic to a very small area of north-west Tasmania around Burnie, the species occupies seepages, wet slopes, riparian margins, and poorly drained areas where moisture persists year-round.

E. yabbimunna constructs Type-3 burrow systems in permanently moist soils—seepages, saturated banks, gully toes and road-edge wet patches—often well above the active channel (Horwitz, 1994; DEH, 2001; TSS, 2024).

Key habitat features include shallow groundwater, saturated soils, and intact vegetative cover/leaf litter (DEH, 2001; TSS, 2024).

Population status and Demography

The number of adult individuals is estimated to be 229,000 to 1,650,000 (DCCEEW 2021). Persistence is inferred from burrow fields and sporadic collections, with past declines and ongoing local pressures in the Burnie urban footprint (TSSC, 2021; TSS, 2024).

There is a continuing risk of decline where drainage, clearing and pollutants intersect habitat (TSSC, 2021).

Area of Occupancy (AO) & distribution (EO)

Distribution is highly localised around Burnie, NW Tasmania. Federal advice cites EO $\approx$ 130km² and AO $\approx$ 2.6km² across about nine locations (TSSC, 2021).

Known occurrences span ferny creeklines to seepage on pastoral or urban margins (TSS, 2024).

The minute area of occupancy underpins the species' high sensitivity to disturbance.

Home range, movement & density

Movement of the species is chiefly subterranean within burrow networks; while above-ground dispersal is known to occur in wet conditions over short distances (Horwitz, 1994; DEH, 2001).

Dense clusters of chimneys can occur where soils remain saturated; however, distribution is highly variable at fine scales.

Life history & breeding

Like other *Engaeus*, the species has slow growth and low fecundity; females brood under the abdomen and reproduction is dependent on cool, moist, stable soils (Horwitz, 1994; DEH, 2001).

Recovery from local losses is slow when burrow fields are removed or dewatered.

5.12.3 Findings and Relevant Impacts

Findings

The Burnie burrowing crayfish (*Engaeus yabbimunna*) is confined to the Burnie district and nearby areas of northwest Tasmania, where it occupies a range of damp habitats including riparian vegetation, marshes, farm dams, roadside seeps, culverts, and disturbed stream sides (Doran, 2000; TSSC, 2016a). Records occur within 5km of the project footprint in suitable habitat in the vicinity of watercourses such as Maldon, Messengers, Romaine, Shorewell, and Cooee Creeks, the latter 4 of which intersect the AoD.

Targeted field surveys recorded seven potential burrowing crayfish chimneys, including one within Cooee Creek that falls inside the species' known range and aligns with nearby NVA records. Six additional chimneys were located outside the mapped distribution and are unlikely to represent the Burnie burrowing crayfish. Nonetheless, the occurrence of suitable habitat intersecting the project area - including in the vicinity of Messengers Creek, Romaine Creek, and Shorewell Creek - combined with confirmed local records, indicates the species is likely to occur within parts of the project area.

Relevant impacts

The EIS rates the species as moderately sensitive to vegetation clearance of riparian vegetation degrading suitable burrowing habitat. It argues that the species is relatively well represented in places in which this disturbance occurs, but its abundance and distribution are limited by threatening processes, such as:

- Habitat loss/fragmentation:
 - Construction works and access tracks near streams
 - Erosion and sedimentation reduction in water quality
- Cumulative pressures from continuing habitat loss and degradation.

The implications of the species distribution and ecology is that micro siting at metre-scale matters for impact avoidance and the implementation of hydrology-preserving designs are central to mitigation.

Significant Impact Assessment

The Commission finding against the *Significant Impact Guidelines 1.1 2013* is set out in the SIA at Appendix 2, along with additional discussion of impacts and mitigation in section 6.

5.13 Green and Gold Frog (*Litoria raniformis*)

5.13.1 Conservation Status

The Green and Gold Frog is a large, ground-dwelling frog historically widespread across southeastern Australia, including Tasmania. It is listed as Vulnerable under the EPBC Act (2002), primarily due to population declines from wetland loss, disease, and predation (TSSC, 2016b). Its biology - late maturity, fragmented distribution, and dependence on permanent or semi-permanent wetlands - makes it highly sensitive to disturbance and incremental habitat loss.

The listing reflects the combined impacts of habitat degradation and disease, but also acknowledges that some stronghold populations persist in modified landscapes.

Relevant EPBC Instruments

Conservation planning for *L. raniformis* is guided by the National Recovery Plan (DEWHA 2010b) and the Approved Conservation Advice (TSSC 2016b). These highlight the critical role of wetland protection, hydrological integrity, and disease management.

- Core prescriptions: maintain permanent/semi-permanent wetlands; protect riparian vegetation; limit disturbance during breeding season.
- The Threat Abatement Plan for *Chytrid fungus* is relevant; and predation by feral cats is peripheral but potentially important.

Key Issues

Construction of transmission corridors can intersect riparian zones and wetlands, where this frog breeds. Direct habitat loss and hydrological change present the main pathways of risk, though vehicle strike and chemical run-off are also potential pressures.

- Wetland disturbance: clearing or drainage may impair breeding sites.
- Fragmentation: linear infrastructure may isolate small wetland clusters.

5.13.2 Ecology, Population Status and Demography

Ecology

L. raniformis inhabits permanent and semi-permanent wetlands, lagoons, swamps, farm dams, and slow-flowing streams with dense emergent vegetation (Hero et al., 1991; Littlejohn, 1967). Logs, rocks, and aquatic vegetation provide shelter. In Tasmania, the species is most associated with coastal plains and lowland wetlands in vegetated agricultural dams and nearby streams.

The species frequently basks out of the water and moves across the landscape between wetlands.

- Core habitat: wetlands with permanent water and vegetation cover.

- Constraint: absence of stable wetlands reduces breeding opportunities

Population Status and Demography

Historically abundant, the species has undergone a major decline across its range in Tasmania. Monitoring suggests populations are now fragmented and small, though precise estimates are lacking (Hero et al., 1991; TSSC, 2016b).

- Population size: exact numbers unknown; strongholds persist in select wetlands Estimated population of between 5,000 and 10,000 in 2006. (DPIWE, 2006)
- Trend: long-term decline, with local extinctions in some catchments.

Decline has been severe, but some resilient populations remain where wetlands persist.

Demography

Area of Occupancy and Distribution

In Tasmania it is patchy and largely near coastal (Hero et al., 1991; DEWHA, 2010b) but also still occurs in the Tasmanian midlands.

- Extent of occupancy: broad distribution in southeast Australia.
- Are of occupancy: highly reduced and patchy in Tasmania.

Distribution is fragmented, amplifying sensitivity to local habitat loss.

Home Range and Territory Use

Individuals use wetlands and adjacent terrestrial habitat for foraging and dispersal. They are mobile within local wetland complexes but tied to permanent water during breeding (Hero et al., 1991) and during droughts.

- Breeding tied to wetland water levels.
- Foraging occurs in adjacent grassy and riparian areas.

Home range is modest but connectivity between wetlands is critical.

Density

Density is highly variable, depending on wetland size and productivity. Declines in density have been associated with loss of permanent wetlands (Hero et al., 1991).

- Historically high densities in large wetlands.
- Current densities reduced in fragmented sites.

Where habitat remains intact, local densities can still be high.

Life History and Breeding

Breeding occurs in spring–summer; clutches contain thousands of eggs laid among submerged vegetation (Littlejohn, 1967). Tadpoles require long larval development periods in permanent water, making populations vulnerable to hydrological changes.

- Lifespan: ~10 years.
- Maturity: ~2 years.
- Reproduction: thousands of eggs per clutch; dependent on permanent water.

The reliance on long larval periods ties survival directly to wetland stability.

5.13.3 Findings and Relevant Impacts

Records of *Litoria raniformis* (green and gold frog) occur near the alignment around Bracknell, Westbury, Elizabeth Town, and south of Penguin at West Pine. The closest important population is at Longford, 20km northeast of the project area, with limited potential habitat in the survey area (mainly farm dams with marginal aquatic flora), but no suitable habitat was identified within the AoD.

As no farm dams are expected to be disturbed and the nearest known population is distant, the species is unlikely to be significantly affected by the project.

Avoidance of wetland habitat is the most effective mitigation. With careful siting impacts can be avoided.

The Commission accepts these finding and considers a significant impact is unlikely and a SIA is not warranted in the context of the action.

The Commission also considers that conditions related to minimising the potential impact of construction on sedimentation and water quality, will also minimise the potential for downstream secondary pressures to impact upon the species.

5.14 Australian Grayling (*Prototroctes maraena*)

5.14.1 Conservation Status

The Australian grayling is listed as Vulnerable under the EPBC Act (listed 2000). Its listing reflects its restricted distribution, reliance on migratory connectivity, and sensitivity to hydrological disturbance and barriers (Backhouse et al., 2008).

- Category: Vulnerable (EPBC Act, 2000).
- Key reasons: fragmented population, reliance on unregulated flow and estuarine migration, vulnerability to barriers, sedimentation, and habitat degradation (Jackson & Koehn 1987; Backhouse et al. 2008).

This listing indicates the species is at risk from incremental habitat modifications and changes to connectivity.

Relevant EPBC instruments

Several key instruments guide management of the species.

- Conservation Advice (Department of the Environment, 2016): prioritises maintaining connectivity, ensuring suitable flow regimes, and protecting riparian habitat.
- National Recovery Plan (Backhouse et al., 2008): outlines actions to protect spawning habitat, restore fish passage, and manage catchment stressors.
- Threat Abatement Plans (TAPs):
 - Relevant: aquatic barriers (weirs, culverts), altered flow regimes, riparian clearing, and sedimentation.
 - Predation by introduced fish impacts (DNRET, 2024).

Collectively, these instruments emphasise maintaining free passage, water quality, and environmental flows.

5.14.2 Ecology, Population Status and Demography

Ecology

The species is a dark green-grey fish up to 30cm with silvery sides and a mid-lateral stripe. It is an anadromous species: born in freshwater, juveniles migrate to the ocean, adults return to spawn (Fulton, 1990). The species is found in Tasmanian coastal rivers including the Mersey (stronghold), Gawler, Leven, Tamar, North Esk and Great Forester (TSSC, 2021; TSS, 2024c). It has been recorded from Guide River tributary, Blythe River, Sulphur Creek tributary, Leven and Mersey rivers intersecting the alignment, plus one NVA record on the Gawler River (May, 2015).

The species has been found to be temporally locally abundant in the Mersey (a significant stronghold for the species), Gawler, Leven, Tamar, North Esk and Great

Forester rivers. At times, significant numbers also occur in the lower sections of the River Derwent and Huon River.

The Australian grayling is a diadromous fish, with adults migrating from the sea and spawning in freshwater before larvae drift to estuaries, followed by juvenile upstream migration (Berra, 1982; Crook et al., 2006).

- **Critical features:** clean, flowing rivers with gravel substrates, intact riparian zones, estuarine dispersal corridors.
- **Core range:** south-eastern Australia, with Tasmanian populations in rivers such as the Derwent, Huon, Leven, and Pipers (Jackson & Koehn, 1987).

The dual reliance on both freshwater and estuarine habitats in the lifecycle increases sensitivity to localised disturbance.

Population Status and Demography

There is incomplete knowledge of Tasmanian population sizes and trends, primarily due to unpredictable flow conditions influencing the episodic occurrence and recruitment variability of the species

Population estimates remain uncertain, but the distribution of the population has changed over time.

- Pre-European: formerly widespread and abundant across southeastern rivers (Jackson & Koehn, 1987).
- Current: fragmented; recruitment highly variable and often low (Backhouse et al., 2008; Koehn et al., 2013), Tasmanian rivers continue to provide important strongholds, although population trends remain poorly quantified.

Area of Occupancy and Distribution

- Extent of occurrence: estimated 50,000–100,000km² across southeast Australia (Backhouse et al., 2008).
- Area of occupancy: restricted to discrete catchments; patchy within Tasmania.
- Tasmanian distribution: Derwent, Huon, Pipers, Leven, and several northern rivers (Jackson & Koehn, 1987).

The Species distribution highlights its dependence on a small number of catchments.

Home Range and Territory Use

Detailed telemetry is limited, but evidence shows adults occupy defined river reaches, while juveniles undertake extensive migrations between estuaries and headwaters.

- Adults: typically remain within several kilometres of a river reach (Koehn et al., 2013).
- Juveniles: migrate over long distances, often up to 100km upstream from estuaries into freshwater habitats (Crook et al., 2006; Koehn et al., 2013). Migration occurs mainly between August and December, with timing influenced by flow conditions (Berra, 1982).
- Ecological importance: these migrations are essential for replenishing adult populations. Barriers such as weirs, dams, and poorly designed culverts can severely restrict recruitment (Backhouse et al., 2008).
- Sensitivity: as grayling are short-lived (~5–6 years), even two or three consecutive years of failed recruitment can cause sharp population declines (Koehn et al., 2013).

Observation: Connectivity across life stages is fundamental to maintaining populations, meaning that even small watercourse modifications associated with infrastructure can have disproportionate consequences.

Density

Quantitative density estimates are lacking; abundance fluctuates dramatically with recruitment success (Koehn et al., 2013).

The species is recorded as rare in some years and common in others, reflecting episodic recruitment and survival.

The varying abundance of the species underscores its vulnerability to disturbance during critical recruitment years.

Life History and Breeding

The species is short-lived and strongly dependent on consistent recruitment (Berra 1982).

- Lifespan: ~5–6 years.
- Maturity: Female 2–3 years (Berra, 1982). - Male 1 year.
- Breeding: autumn spawning; larvae drift to estuary; juveniles migrate upstream in spring (Crook et al., 2006).
- Productivity: 47,000 appr. eggs, 88% mortality of spat, strongly flow-dependent, with successful recruitment in years of suitable hydrology.

These traits emphasise the species sensitivity to hydrological modification and sedimentation.

Context and Implications

5.14.3 Findings and Relevant Impacts

Findings

Prototroctes maraena (Australian grayling) is potentially present in rivers and streams within the survey area including in the Mersey River which is a stronghold (Threatened Species Section, 2024c). Towers T142A and T143 are located about 355m and 342m from the Mersey River riparian zone. Vegetation clearing to mid-storey here is unlikely to affect water quality or instream habitat. TasNetworks concludes that the Mersey River habitat is unlikely to be impacted even without mitigation.

Other proposed works include riparian clearance to ground cover at T45 and T46 between SH-BU and ground-level clearance for a new access track across the Gawler River in the AoD. TasNetworks conclude that while these activities may temporarily reduce water quality or instream habitat, they are not expected to significantly impact the species by modifying, destroying, isolating, or decreasing habitat to the extent of population decline. Therefore, the species is unlikely to be significantly impacted pre-mitigation.

The Commission accepts TasNetworks' findings that there is unlikely to be a significant impact on the species and does not consider a SIA is warranted.

The Commission notes that while the action is unlikely to cause a significant impact, a precautionary approach is warranted.

The Commission considers that requiring water crossings to maintain instream habitat connection and management of construction impacts on water quality will minimise the potential for impacts to occur.

5.15 Latham's Snipe (*Gallinago hardwickii*) - Migratory

5.15.1 Conservation status

Latham's snipe (*Gallinago hardwickii*) is a medium-sized migratory wader (29–33 cm) that breeds in Japan and eastern Russia and migrates to Australia, including Tasmania, between September and February (DoE, 2019).

It is listed under the EPBC Act as Vulnerable since 2024 and Migratory through JAMBA and ROKAMBA. As noted in section 4.4 the Commission has considered this species only in the context of a migratory species.

EPBC Instrument

No Recovery Plan or Threat Abatement Plan applies.

EPBC Act Policy Statement 3.21 - Applicable.

Referral guideline for 14 EPBC-listed migratory bird species - Applicable.

Conservation Advice for *Gallinago hardwickii* (Latham's Snipe) (2024).

Key threats are:

- Wetland drainage for agriculture
- Disturbance at roosting sites
- Habitat loss to development and intense grazing
- Drought and fire, and
- Hunting.

5.15.2 Ecology, Population Status and Demography

The species inhabits permanent and ephemeral wetlands to 2,000m, located in tussock grasslands, heathlands, scrub, button-grass plains, alpine herbfields, and open forest, and also forages in crops and pasture. It probes wet soils for invertebrates. It is widespread across eastern half of Australia and Tasmania. Tasmania supports summer non-breeding migrants, particularly on the Central Plateau.

The species is dispersive in Australia, likely responding to rainfall events and food availability.

Its global population is estimated to be 20,000 – 40,000 birds.

5.15.3 Findings and Relevant Impacts

NVA records occur at Poatina and Burnie–Hampshire Hills, with one record at Shorewell Creek in 2020.

The EIS sets out that no wetlands occur within the AoD, and that with no wetland clearance, and minimal non forest habitat clearance, for example pasture, there is the

potential for only minimal indirect effects, and negligible project-specific risk to the species. The EIS considers that Latham's snipe is unlikely to be impacted and is not considered further in the EIS assessment.

While the Commission acknowledges that tower sites and access tracks will modify localised drainage patterns, these changes will at most impact on opportunistic foraging habitat. The Commission considers in the context of the areas nearby to the transmission line that provide potential habitat and opportunistic foraging habitat, the tower sites and access tracks are negligible in area.

The Commission notes and accepts TasNetworks' findings and considers a SIA and further assessment is not warranted.

5.16 Fork-tailed Swift (*Apus pacificus*) - Migratory

5.16.1 Conservation status

The fork-tailed swift is a medium sized (18–21cm) bird with a long, deeply forked tail. It is almost entirely aerial (DoE, 2015), flying from <1m to >300m (DoE, 2019a).

In Australia it occurs mainly over inland plains above dry and open habitats, including riparian woodland, tea-tree swamps, heathland, saltmarsh, grassland, farmland, and sand-dunes.

It has also been observed above rainforest, wet sclerophyll, open forest and pine plantations (DoE, 2019a). The species is a migrant to Australia in the non-breeding season (Oct–Mar).

There are no NVA records within 5km of proposed route, but it is an aerial species that could occur over most habitats.

Listed as Migratory – JAMBS, CAMBA, ROKAMBA.

EPBC Instruments

No Recovery Plan or Conservation Advice.

EPBC Act Policy Statement 3.21 - Applicable.

Referral guideline for 14 EPBC-listed migratory bird species - Applicable.

5.16.2 Findings and Relevant Impacts

TasNetworks EIS considers the species likely to occur due to the diverse habitats it utilises, but due to its predominate aerial characteristics it is unlikely to be impacted by the action.

The Commission notes that there are no significant threats to the Fork-tailed Swift in Australia and that populations are believed to be stable in Australia.

The Commission considers that there is unlikely to be an impact on this species, and SIA or further assessment is not warranted.

5.17 Eucalyptus ovata forest - Threatened ecological community

5.17.1 Conservation Status

Eucalyptus ovata forest and woodland is a lowland eucalypt community that occurs in fertile alluvial soils and moist valley floors. It provides important habitat for a range of fauna, including swift parrot (*Lathamus discolor*). It is listed under the EPBC Act as the threatened ecological community as “Tasmanian Forests and Woodlands dominated by black gum (*Eucalyptus ovata*) or Brookers gum (*Eucalyptus brookeriana*)”. At the state level, it is listed as a threatened community under the Tasmanian *Nature Conservation Act 2002*.

Historically the community was widespread across fertile lowland valleys and floodplains of Tasmania. It is now reduced to a small fraction of its pre-European extent due to clearing for agriculture, urban development, and infrastructure.

- Estimated pre-European extent: approximately 120,000ha statewide (DAWE, 2021a; TSSC 2019)
- Extent: Approximately 15,000ha of *E. ovata* forest and woodland is mapped across Tasmania in TASVEG 4. – 12% pre European
- Commonwealth: Listed as “Tasmanian Forests and Woodlands dominated by black gum or Brookers gum” under the EPBC Act.
- Tasmania: Listed threatened native vegetation community under the NC Act.
- Reservation status: 4% pre European extent

5.17.2 Findings and Relevant Impact

TasNetworks’ surveys and mapping identified three patches of *Eucalyptus ovata* forest and woodland within or adjacent to the survey area along the Palmerston to Sheffield section, including a:

- 2.3ha patch adjacent to towers PM-SH-T46 and T47 and associated access tracks.
- 1.54ha patch adjacent to tower PM-SH-T106.
- 5.1hs patch adjacent to tower PM-SH-T169.

The EIS clarifies the proposed impacts on this community and notes a qualitative assessment of the community condition, that has been summarised in Table 4.

Table 4. *Eucalyptus ovata* forest summary

	PM-SH T46-T47	PM-SH T106	PM-SH T169
Total area (ha)	2.3	1.54	5.1
Within survey area (ha)	0.56	0.05	0.43
Within area of disturbance (ha)	0.03 Comprising: - 0.02ha Span clearing to ground cover - 0.01ha access track clearing to ground level	none	0.06 Proposed limb pruning along existing access track
Condition	Not field verified Assessed from aerial imagery and considered to be highly degraded	Field verified Identified as being in poor condition and weed, and is unlikely to meet the condition requirements as an EPBC listed community	Field verified Identified as being degraded with holly (<i>Ilex aquifolium</i>) and blackberry (<i>Rubus fruticosus</i>), and condition requirements as an EPBC listed community

The Commission notes that the EIS identifies all patches as degraded and unlikely to meet the EPBC Act community condition requirements, but that no assessment against the diagnostic criteria set out in the approved conservation advice has been provided.

In the absence of an assessment against the diagnostic criteria, the Commission considers that a precautionary approach requires the community to be considered as meeting the relevant threshold as being a listed community.

The Commission notes that all three patches are remnants within a mosaic of pasture and cropping land and that the patches are not afforded a buffer from agricultural activities. Similarly, the proposed clearing of 0.02ha at PM-SH-T46-47 is adjacent to the existing 220kV single circuit transmission line that maintain vegetation at ground cover within the buffer area for this patch.

The Commission notes aerial imagery indicates that the proposed clearing of 0.03ha at PM-SH-T46-47 contains few mature trees and is predominately comprised of understory species interspersed with pasture.

While the EIS identifies the patch at PM-SH-T169 to be ~5.1 ha the Commission considers that the adjacent stands mapped by Tasveg 5 as *Eucalyptus ovata* forest and

woodland and separated by ~50m from the patch identified in the EIS comprise a single patch with a total forested area of ~12ha.

The Commission notes that the patch at PM-SH-T169 has the canopy overhanging the existing road, and TasNetworks EIS proposes clearing to ground cover but also states that this patch should largely be retained with only limbs being pruned.

The Commission has considered the patch adjacent to PM-SH-T169 as if it will be cleared, noting there is insufficient information to understand the likely survivorship following pruning and accesses track upgrades.

The Commission consider that the negligible extent of clearance (0.09ha in total AoD), that the clearing is along the existing edge of the stand and the extent of this community across Tasmania (~15,000ha), the project is unlikely to cause a significant impact on the listed ecological community.

The Commission acknowledges the potential of weeds and disease to be introduced where works occur within or in proximity to the threatened ecological community. While the Commission notes impacts from invasive species, particularly weed invasions are a key threat to the community, it accepts the field verified site PM-SH T169 is already degraded with some weed species, and considers the condition of PM-SH T46–T47 is unknown.

In this context the Commission considers a precautionary approach requiring application of best practice weed, disease and hygiene management during construction, will minimise the potential for the introduction and spread of weeds and disease.

The Commission does not consider a SIA is warranted, The Commission also considers that no specific conditions mitigating impacts, beyond undertaking work in accordance with an approved weed, disease and hygiene management plan, is warranted given the location, extent and context of the proposed clearance.

5.18 Wet *Eucalyptus viminalis* forest - Threatened ecological community

5.18.1 Conservation Status

Eucalyptus viminalis wet forest is an ecological community with a tree canopy dominated by white gum (*Eucalyptus viminalis*) with a crown cover of 5% or more and a wet forest understorey dominated by broad-leaved (soft-leaved) trees or shrubs.

Historically widespread across fertile lowland valleys and floodplains of Tasmania but particularly on basalt soils. Now reduced to a 10% of its pre-European extent due to clearing for agriculture, plantation forestry and urban development.

- Commonwealth: Listed as *Critically Endangered* under the EPBC Act as the ecological community *Eucalyptus viminalis* wet forest.

- Tasmania: Listed as a threatened native vegetation community under the *Nature Conservation Act 2002*.
- Estimated pre-European extent: ~ 78,000ha (TSSC, 2019; DAWE, 2021b).
- Current extent – 7,900ha statewide (NRE Tas, 2022).
- Reservation status: 21% of the remaining extent (2% of pre European) lies within the National Reserve System.

5.18.2 Findings and Relevant Impact

Findings

The EIS reports that in the survey area, this vegetation community was characterised by *E. viminalis* forming the dominant canopy species to a height of 45m (Figure 5.11 of the Ecology Assessment Report)). *Acacia melanoxylon* was also present in the canopy, while *E. obliqua* was subdominant in the patch between BU-HH-T83 and T84. The understorey was reported as characteristic of the listed community.

The EIS records the weed: *Arrhenatherum elatius* var. *bulbosum* (an invasive pasture grass) was locally abundant in the site between BU-HH-T83 and T83A and is considered a high-threat weed in wetter forests of northern Tasmania. The declared weed *Rubus fruticosus* (blackberry) was recorded in the patch between SH-BU T58–T59.

TasNetworks identify that four patches supporting 9.4 ha of *Eucalyptus viminalis* wet forest were field verified including 2.29ha in the survey area.:

The EIS clarifies the proposed impacts on this community that has been summarised in Table 5.

Table 5. *Eucalyptus viminalis* wet forest summary

	SH-BU T95–T96	SH-BU T83–T83A	SH-BU T58–T59	SH-BU T57A–T58
Total area (ha)	4.6	2.3	0.56	1.96
Within survey area (ha)	0.46	0.95	0.46	0.42
Within area of disturbance (ha)	0.14	none	none	none
Condition	Not stated in EIS, but Inferred as condition class A – high quality based on EIS commentary	Not stated	Not stated	Not stated

The EIS sets out that a LIDAR analysis indicated that the 0.14ha portion of the patch at SH_BU-T95-T96 does not require clearance to maintain electrical safety clearance. However, the EIS reports that despite that, some *E. viminalis* trees may require management (e.g. limb removal) to maintain electrical safety clearance under the OHTL.

The Commission has considered the relevant portion of the patch as if it will be cleared, noting there is insufficient information to understand the likely survivorship following limb removal, and the application also seeks to clear the balance of the relevant portion of the patch to ground cover.

The Commission notes that the SH-BU-T95-T86 stand is located largely within the easement for the existing overhead transmission line, is subject to existing edge effects, and not afforded any existing buffer between the community and cleared land.

The Commission acknowledges the potential of weeds and disease to be introduced where works occur within or in proximity to the threatened ecological community.

The Commission considers the inferred high quality of the patch at SH-BU-T95-T86 requiring application of best practice weed, disease and hygiene management during construction, will minimise the potential for the introduction and spread of weeds and disease.

The Commission does not consider a SIA is warranted, The Commission also considers that no specific conditions mitigating impacts, beyond undertaking work in accordance with an approved weed, disease and hygiene management plan, is warranted given the location, extent and context of the proposed clearance.

6 Potential impacts and mitigation

6.1 Overall project impact and mitigation

TasNetworks EIS suggests that route selection is a component of impact avoidance and that localised realignment and micro-siting will be applied where field surveys identify threatened species, sensitive vegetation, or features.

TasNetworks further set out that construction will be scheduled to avoid sensitive breeding and denning periods for wedge-tailed eagle, Tasmanian devil, spotted-tailed quoll, and eastern quoll, following EPA and FPA protocols.

The Commission notes that requirements for species specific avoidance are detailed in sections 6 and 7 and are included as restrictions within the Commission permit.

TasNetworks EIS (sections 6.1.6 and 6.2.6, and Appendix B) considered that of the 16 listed and migratory fauna species known or likely to be present, there were potential impacts on the 14 listed fauna species. TasNetworks further considered that there was likely to be a significant impact on 6 species if no mitigation actions occur.

Table 6. Listed and migratory fauna species known or likely to be present.

Scientific name	Common name	Potential for significant impact (pre-mitigation)
<i>Aquila audax subsp. fleay</i>	Tasmanian wedge-tailed eagle	Likely
<i>Astacopsis gouldi</i>	giant freshwater crayfish	Likely
<i>Ceyx azureus diemenensis</i>	Tasmanian azure kingfisher	Unlikely
<i>Dasyurus maculatus subsp. maculatus</i>	spotted-tail quoll	Likely
<i>Dasyurus viverrinus</i>	eastern quoll	Likely
<i>Engaeus yabbimunna</i>	Burnie burrowing crayfish	Likely
<i>Hirundapus caudacutus</i>	white-throated needletail	Unlikely
<i>Lathamus discolor</i>	swift parrot	Unlikely
<i>Litoria raniformis</i>	green and gold frog	Unlikely
<i>Perameles gunnii subsp. gunnii</i>	eastern barred bandicoot	Unlikely
<i>Prototroctes maraena</i>	Australian grayling	Unlikely
<i>Sarcophilus harrisii</i>	Tasmanian devil	Likely
<i>Tyto novaehollandiae castanops</i>	Tasmanian masked owl	Unlikely

TasNetworks EIS sets out the potential pathways for MNES to be significantly impacted across species, that are summarised as:

- Loss, degradation and fragmentation of fauna habitat and direct mortality of fauna, from native vegetation clearance and ground disturbance.
- Disturbance to breeding bird and mammal species due to increased activity and noise.
- Degradation of aquatic fauna habitat from erosion, sedimentation and changes to hydrology of streams.
- Degradation of fauna habitat from the introduction of weeds, diseases and invasive species.
- Degradation of fauna habitat from contamination.
- Mortality or injury of fauna individuals from collision with project vehicles and machinery.
- Mortality or injury of birds from collision and electrocution.
- Mortality of giant freshwater crayfish due to illegal hunting.

TasNetworks EIS set out the management measures they proposed to apply to avoid, minimise or mitigate potential impacts across all MNES, Summary tables for each

species of the applicable management measure proposed to address each relevant impact pathway is provided in Appendix 1.

The Commission has excluded a range of management measures from Appendix 1 as they were considered to be either unrelated to mitigating impacts on MNES or an internal compliance procedure, or is a standard that is required by other planning criteria or best practice. The management measure excluded from Appendix 1 are CM027, CM35, CM39, CM43, CM49, CM50, CM54, CM57, CM58, and CM62.

The Commission considers that the management measures are comprehensive at a high level and provide sufficient guidance and reference to regulatory guidelines to support the development of relevant management plans. However, the Commission considers the management measures are drafted with too much uncertainty to apply as conditions and restrictions on a permit.

The direct impact, habitat clearance and disturbance impacts across all MNES with the potential for a significant impact are discussed below.

6.1.1 Vegetation

TasNetworks EIS reports that of the 1,132ha site within the area of disturbance (excluding substations and areas containing hazard trees), approximately 980ha is largely agricultural land and just under 150ha is classified as native vegetation.

The Commission notes that the 980ha of mainly agricultural land includes:

- Agricultural land, urban and extra-urban, and permanent easements that comprise just under 849ha.
- Improved pastures with tree canopy not less than 5%, regenerating cleared land, and plantations comprise just over 80ha.
- Approximately 9ha of land proposed to be cleared or modified is identified as weed infestations, that includes the four weeds of national significance (English broom (*Cytisus scoparius*), Blackberry (*Rubus fruticosus aggregate*), Willow (*Salix* spp., except *Salix babylonica* and *S. × calodendron*), and Gorse (*Ulex europaeus*)).
- Approximately 11ha of waterbodies comprising mapped riverbeds and farm dams, noting many watercourses are not separately identified within this category.

The Commission notes that within the agricultural landscape the potential habitat for listed species to be permanently cleared and converted includes tower pads sites and access tracks in proximity to the species habitat. The Commission notes that the proposed conversion or partial clearance of generally isolated individual or small groups of native trees and shrubs in agricultural settings, and plantations has the potential to impact on listed species depending on proximity to core habitat and characteristics of species use of the vegetation.

The Commission notes that just under 144ha of native vegetation is proposed to be converted or partially cleared and just under 6ha is proposed to be overflown and not cleared. The native vegetation proposed to be partially cleared or converted is predominantly (96%) eucalypt forest, and the entire extent of eucalypt forest is foraging and a smaller portion denning or nesting habitat for listed species.

Areas partially cleared are able to be utilised by fauna and fauna to at least some extent, particularly foraging. While such clearing will lead to a reduction in habitat values it does not eliminate all such values.

The Commission notes that potential impact from partial clearing or conversion of native vegetation, is dependent upon the full and local extent of partial clearance and conversion and the species use of the vegetation.

The Commission notes that in broad terms, clearing to ground level will remove denning opportunities for mammals and nesting opportunities for raptors and impact on the quality of foraging habitat. Clearing to ground cover (0.5-1m in height) may affect denning opportunities and will remove nesting opportunities for raptors.

The Commission notes that potential impacts on raptor nesting opportunities from clearance to midstory will vary as the extent of clearing trees depends on the dominant tree height, the height of overhead transmission lines and how midstory clearing is undertaken. The Commission notes that midstory clearing largely propose felling the entire tree rather than pruning limbs that enter the electrical safety clearance zone. The Commission considers that applying a precautionary approach to the assessment must consider the worst-case scenario that clearing to mid story removes all raptor nesting opportunities due to their reliance on mature trees.

The Commission considers the TasNetworks calculations for clearance to ground level and ground cover to be inaccurate. The Commission notes that the layout of typical winch, drum and break site provided in the EIS will require clearance to ground level. The Commission calculations of clearance area by clearance type for each section is set out in Table 7.

Table 7. The area (ha) of native vegetation modification (conversion and partial clearance)

Section	Conversion Ground Level (ha)	Partial clearance Ground Cover (ha)	Partial clearance Midstory (ha)	Area Total (ha)	% Total
PM-SH	6.68	20.45	4.35	31.48	21.87
SH-BU	6.20	8.44	6.1	20.74	14.41
BH-Spur	9.27	10.49	4.59	24.35	16.92

Section	Conversion Ground Level (ha)	Partial clearance Ground Cover (ha)	Partial clearance Midstory (ha)	Area Total (ha)	% Total
BU-HH	17.36	35.00	14.95	67.32	46.79
Total	39.51	74.38	29.99	143.88	
% Total	27.46	51.70	20.84		100

The area totals and % of totals for each section illustrate that potential impacts on listed species habitat, particularly mammals, is not uniform across the project. The Burnie to Hampshire Hills (~26km) and Heybridge spurs (~6km combined) account for nearly 47% and 17% of the proposed native vegetation clearance while only approximately 16% and just under 4% of the total project respectively.

Very small portions of the native vegetation proposed to be cleared are the threatened ecological communities of *E. viminalis* wet forest and *E. ovata* forest. The potential impact on these threatened ecological communities is assessed in section 6.

6.1.2 Mammal habitat clearance and modification

The extent of proposed habitat clearance for listed mammal species with the potential to be significantly impacted without mitigation is set out in table 8, below.

The Commission notes the information provided by TasNetworks in the EIS and considers:

- It prefers to use calculations based on the EIS vegetation clearance tables where they differ from reported areas in the EIS and particularly in TasNetworks Ecology Assessment Report.
- Winch, drum and break sites require clearing to ground level, and will remove all existing denning features, but are not precluded from providing dens at a future point.
- Available modified habitat includes plantations for silviculture.
- The permanent clearance to ground level for new access tracks at 10m and underground 22kV distribution lines (preferentially within existing 12m easements), is liable to be an overestimation, but the Commission acknowledges an accurate estimate is not available as the necessary micro siting decisions and design work has not been undertaken.
- The permanent clearance to ground level of new access tracks that service the decommissioning of existing towers or winch, drum and break sites is an overestimation of permanent foraging habitat loss, but the Commission acknowledges these occurrences are small in area and notes it has not recalculated the permanent vs temporary figures to account for these tracks.

Table 8 presents the extent of potential habitat that will be converted or partially cleared by vegetation clearance treatments to accommodate the infrastructure and easement maintenance at safe levels for electrical transmission.

Table 8. Area of denning and foraging habitat by each treatment - total – (temporary)

Species	Native habitat Cleared (ha)	Native habitat Partial clearance(ha)		converted habitat	Total habitat impacted (ha)	
Den Habitat	Ground Level	Ground Cover	Midstory	Plantation	Permanent change	Temporary change
Tasmanian devil ⁷	38.8 (12.8)	71.4	28.4	windrows	138.6	
Spotted-tailed quoll ⁸	38.8 (12.8)	71.5	29.2	windrows	139.5	
Eastern quoll ⁹	28.2 (9.4)	47.4	15.1	windrows	90.71	
Foraging Habitat						
Tasmanian devil	39.5 (18.1)	73.1	29.2	76	215.8	3.3
Spotted-tailed quoll	38.8 (18.1)	71.5	29.2	76	212.5	3.3
Eastern quoll	28.2 (9.7)	47.4	15.1	76	166.7	2.2

In all cases the denning habitat occurs within foraging habitat and so the denning and foraging areas are not summative.

TasNetworks EIS argues that the temporary portions of clearance will be allowed to regenerate to the limits of electrical transmission safety. The Commission notes that the TasNetworks identified areas of temporary clearance of tower pad laydown areas has uncertainty and the EIS reports a typical clearance of 15m surrounding the tower pad in Figure 5.7 (Part A Report introduction) and an area of 62.5m x 32.5m in Part E, Appendix B Ecology assessment report. The Commission also notes that tower and pole micro-siting and final arrangements of tower access tracks add additional uncertainty on temporary clearance areas. The Commission has taken a precautionary approach and applied 0.205ha for permanent clearance to each tower and assumed native vegetation within tower pad laydown areas under that threshold is fully cleared.

The Commission's area calculations for permanent clearance, as a precautionary approach, overstate the potential permanent loss as it does not account for micro-siting.

⁷ Tasmanian devil native denning habitat includes TASVEG4 vegetation codes - (preferred dry eucalyptus forest) DAC, DAD, DAM, DAZ, DDE, DOB, DOV, DSC, DVG and (less preferred wet eucalyptus forest) WDB, WOB, WOL, WOR, WOU, WVI.

⁸ Spotted-tailed quoll denning habitat includes TASVEG 4 vegetation codes – (preferred wet and dry eucalyptus forest) DAC, DAD, DAM, DAZ, DDE, DOB, DOV, DSC, DVG, WDB, WOB, WOL, WOR, WOU, WVI and (less preferred rainforest), RMT and RMS.

⁹ Eastern quoll native denning and foraging habitat includes TASVEG 4 vegetation codes for dry eucalyptus forest and lowland grassland complex DAC, DAD, DAM, DAZ, DDE, DOB, DOV, DSC, DVG and GCL

The Commission notes 3.3ha of Tasmanian devil and Spotted-tailed Quoll habitat and 2.2ha of Eastern quoll habitat, for winch, drum and break sites, is located outside the proposed easement and available for full rehabilitation.

The Commission agrees with TasNetworks position that partial clearance to ground cover and midstory is a modification that degrades the Devil and Quoll habitat for both denning and foraging, but does not eliminate all habitat values.

The Commission notes that this position is supported for:

- Tasmanian devils that will use most vegetation types, provided essential habitat requirements are present (Environment Strategic Business unit, 2023), with the presence of habitat features being more important than the presence of particular vegetation communities (DPIPWE, 2013), noting essential habitat provides places to hide and shelter, native vegetation with a mosaic of open and closed understory, suitable maternal denning areas, and an adequate prey base (DPIPWE, 2013).
- Spotted-tailed quoll has been historically considered forest dependent, however, in Tasmania its habitat use is more flexible with use of fragmented and agricultural landscapes (Troy, 2014; Henerson et al., 2022;2023).
- Eastern quolls that are commonly associated with habitat mosaics of dry grassland, dry eucalypt forest and agricultural land (TSSC, 2015), and their preference for use is not affected by forest harvesting (Jones, 2023).

The Commission also notes:

- that the Tasmanian devil and the Spotted-tailed Quoll can preferentially forage along forest edges where prey species may concentrate.
- that the proposed clearance to ground cover or midstory over the width of the proposed easements, will not functionally fragment the Tasmanian devil and quoll access to potential habitat, due to the retention of vegetation cover.
- Eastern quolls common association with dry grassland and forest mosaics bounded by agricultural land is not contextually altered by this linear project.
- the threats to Eastern eastern quolls identified in the approved conservation advice are from predation, poisoning, climate, and road mortality, and while not an identified threat the relevant impacts on Eastern quoll due to habitat clearance and degradation are identified, for completeness.

The Commission has also considered the potential impacts of habitat clearance and modification in sections 6.2 to 6.5 and Appendix 2 Significant impact assessment.

Important Spotted-tailed quoll populations

The national recovery plan for Spotted-tailed quoll identifies the Central north of Tasmania (including the Great Western Tiers to *narawntapu*, and Takone to Upper Natone as an important population for the species on the basis that the area is a stronghold and research population. While these areas are not clearly bounded the

Tasmania's Threatened Species handbook (Bryant & Jackson, 1999) identifies the central north region bound by the Tamar, Devonport and Western Tiers as a key site for the species.

The important central north population based on the unbounded description encompasses the Palmerston to Sheffield section and a small portion of the Sheffield to Burnie section between Sheffield and the River Forth,

Total Spotted-tailed quoll native vegetation habitat to be converted and modified in the central north area is approximately 30ha over an approximate 86km length, located on the same alignment and adjoining the existing easement for electricity transmission infrastructure. The Commission notes the extensive native vegetation and modified vegetation habitat available for this important population and considers that in this context the potential impact on species habitat for the Central North of Tasmania population is not significant.

The important Takone to Upper Natone population, while unbounded, encompasses a portion of the Burnie to Hampshire Hills section. Based on the unbounded description, the Commission considers an approximately 13km section of the Burnie to Hampshire Hills line (from tower BU-HH-T35, south to the Hampshire hill switching station) that traverses the localities of Highclere, Tewkesbury and Hampshire. The Commission notes that 11km of this 13km section is directly adjacent to, and incorporates, the existing 110kV Burnie to Hampshire Transmission line.

The Commission has not estimated the total native habitat for Spotted-tailed quoll to be impacted in this section, but notes the proposed vegetation clearance is predominately silviculture / plantation, which would be subject to future clearance under the forest practices system. The Commission considers that, in this context, there will not be a significant impact on the Takone to Upper Natone population as a result of the new transmission infrastructure.

Bioregional context of habitat disturbance

The Commission notes that the area of occupancy and large home ranges of Tasmanian devils and quolls and the scale of the project (~165km in length) supports consideration of habitat impacts over a comparable scale.

The Commission considers that this approach is particularly important as the project crosses large areas of agricultural land that contain a mosaic of remnant habitat for these species and bisects sections of large areas of contiguous native habitat.

While the Commission has noted the relative impact of vegetation clearance and disturbance from the project on Tasmanian devils and quolls, in the context of their area of occupancy in sections 6 and in the Significant Impact Assessments (Appendix 2), the bioregional context of habitat impacts is also relevant.

The project is located in two distinct bioregions under the Interim Biographic Regionalisation Australia (IBRA) classification. These are the Tasmanian Northern Midlands and Tasmanian Northern Slopes.

Approximately 35km of the Palmerston to Sheffield section of proposed transmission line is located in the Northern Midlands bioregion. There are very low levels of habitat clearing and disturbance in this bioregion due to the proposed alignment with the existing transmission line and predominant agricultural land use with little remnant vegetation in this portion of the bioregion. The Commission considers the impact at a bioregional level on Tasmanian devil and quoll habitat from clearance and disturbance in this bioregion is negligible.

The remainder of the project is contained in the Northern Slopes bioregion. Based on TASVEG 4 mapping the Northern Slopes bioregion contains approximately:

- 106,000ha of dry eucalypt forest and woodland
- 140,000ha of wet eucalypt forest and woodland
- 26,000ha of rainforest and related scrub
- 1,300ha of native grasslands, and
- 84,000ha of plantations

along with 35,000ha of non-eucalypt forest and woodland, scrub, and coastal complex that provide some habitat opportunities for these species.

Within this bioregion the project proposes to clear approximately 0.016% and degrade less than 0.05% of the available denning habitat for Tasmanian devils and Spotted-tailed quolls and clear just over 0.03% and degrade approximately 0.05% for Eastern quolls. Foraging habitat proposed to be modified for Tasmanian devils and Spotted-tailed quolls is less than 0.07% of the habitat available in bioregion. The Commission consider that the proposed area of habitat modification will not have a significant impact on either Tasmanian devils or quolls, in the context of habitat available in the Northern Slopes bioregion.

Denning features

The Commission notes that the extent of potential denning habitat in plantation windrows has not been measured but is an important resource for Tasmanian Devils particularly when other opportunities are limited, such as in extensive plantation landscapes (Lyall, 2018; Jones et al., 2023). The Commission considers that it is an important denning opportunity.

The Commission considers that the commitment of the project to retain hollow bearing logs and piles of woody debris that are suitable to provide potential denning habitat in areas cleared to ground cover and plantation windrows is an avoidance action that retains this essential habitat feature critical for the survival of these species thus contributing to mitigation.

The Commission also considers that while the disruption of one breeding cycle of Devils and quolls, through disturbance of maternal dens is unlikely to have a significant impact, the precautionary approach proposed by TasNetworks to undertake preconstruction den surveys and prevent destruction of an occupied den and to prevent works within 50m radius of an occupied den provide an additional measure to mitigate potential impacts and are appropriate to adopt.

TasNetworks EIS identified no active dens for Tasmanian devils and quolls during site surveys, but propose preconstruction den surveys following the survey guidelines (ESBU, 2023). The Commission notes that these guidelines require 30% survey coverage of potential denning habitat while targeting suitable features. The Commission considers that to maximise the likelihood of finding dens and avoiding injury to animals and destruction of occupied dens, all of area to be cleared or partially cleared (specifically, winch, drum and break sites, new access tracks, and tower assembly areas) must be included in the Den surveys and surveys must be conducted by suitably qualified persons

The Commission notes that:

- Tasmanian devils are thought to remain faithful to their den sites for life so den disturbance can be destabilising to local Tasmanian devil populations (Owen and Pemberton cited in Environment Strategic Business Unit (2023) and DPIPW (2010)).
- A recent study identifies that Tasmanian devils interacted in dens but notes little is known of the den ecology in the wild (Anderson et al., 2020), but individuals use between one and ten dens (Pemberton, 1990).

The Commission considers that the uptake of new/ additional dens, or the degree of intraspecies competition for use of occupied dens is uncertain.

The Commission considers that if Tasmanian devil dens occur in the land to be cleared to ground level, then those existing den features would be destroyed as a result of construction activities.

The Commission notes the current understanding of Tasmanian devil faithfulness to dens and that dens, particularly maternal dens, are considered an essential habitat feature. The Commission considers that this suggests that the destruction of a known den could be a significant residual impact (notwithstanding the current uncertainty of den ecology).

The Commission considers a precautionary approach is warranted and that the destruction of a den identified by a suitably qualified person is required to be offset and has incorporated a trigger condition in the permit under the LUPA Act.

The Commission is not aware of any similar den fidelity for quolls and, therefore, does not consider a similar precautionary approach is warranted, noting that any direct offset

of dry sclerophyll forest as a result of a devil den offset would provide a benefit to quolls.

Temporary clearing

The Commission notes that only temporary clearing of winch, drum and break sites is proposed and that TasNetworks have set out they will rehabilitate those sites back to a natural condition for sites outside transmission line spans.

The Commission considers that winch, drum and break sites will be cleared to ground level, and that these sites under transmission line spans will also require rehabilitation to ground cover.

The Commission considers that requiring rehabilitation to occur at construction sites is an essential component of the construction soil and water management plan, and that rehabilitation has relevance for both MNES mammals and aquatic species.

Entrapment

The Commission additionally notes there is the potential for listed mammal species to become entrapped in open excavations. While the Commission considers this incidental and presents a low risk, a precautionary approach warrants requiring stock ramps or other devices to allow species to escape open excavations.

6.1.3 Raptor habitat disturbance

Table 9. presents the area of native foraging habitat for the two MNES raptors. The Commission notes that for the Wedge-tailed eagle in particular cleared land is also suitable for hunting. Where suitable perches for Masked owl are adjacent to cleared land, masked owls will also utilise the cleared land (Kavanagh, 1995); potentially for the full width of the easement. Table 9 also includes the number of nests or potential nest trees within the distances listed and the area of habitat to be cleared that could potentially support nest trees.

Table 9. Habitat impacts for MNES raptors at risk of disturbance

Species		Nest trees	Nest habitat (ha)
Wedge-tailed eagle		<500m - 9 > 500m - 16	30.4
Masked owl		5 suitable trees < 150m	0.36

The Commission notes that the Burnie to Hampshire Hills section supports the highest proportion of Wedge-tailed eagle nests that would be disturbed without mitigation, all of the Masked owl habitat and most of the new stream and headwater stream crossings at which Giant freshwater crayfish habitat will be disturbed.

The Commission has considered potential impacts and mitigation actions on the Tasmanian Masked owl in section 6.7 and considered the potential impacts on the Wedge-tailed eagle in Appendix 2 Significant impact assessment.

The Commission does not consider the clearing or modification of potential raptor nesting habitat has the potential to cause a significant impact on the species, given the context of the project and the extent of potential nest habitat in the vicinity that will not be impacted.

While the Commission does not consider the loss of one breeding cycle is liable to cause a significant impact to the Wedge-tailed eagle, it considers minimising the potential for breeding disruption through implementing disturbance buffers is a management practice set out in the species recover plan, and is an appropriate precautionary approach, having regard to potential cumulative impacts on breeding success. The Commission notes that nest activity assessments are an integral component of implementing disturbance buffers.

6.1.4 Crayfish habitat disturbance

Table indicates the number of larger stream crossings that are suitable habitat for the Giant freshwater crayfish or within the range of the Burnie burrowing crayfish, and headwater waters that are suitable habitat for juvenile Giant freshwater crayfish.

Table 10. Habitat impacts for MNES crayfish at risk of disturbance

Species	Crossings	Headwaters	
Giant freshwater CF	15	51	
Burnie burrowing CF	4	N/A-	

The Commission's significant impact assessment for the Giant freshwater crayfish and Burnie burrowing crayfish are set out in Appendix 2.

The Commission notes and accepts TasNetworks evidence that:

- avoiding works in proximity to Giant freshwater crayfish habitat, and Burnie burrowing crayfish chimneys
- retention of instream habitat outside of stream crossing alignment
- Maintaining in stream passage opportunities for Giant freshwater crayfish, and
- avoiding hydrological changes in the vicinity of Burnie burrowing crayfish chimneys,

will avoid the potential for a significant impact to occur to these species, and that specific conditions are required to reflect these mitigation actions.

The Commission notes that to ensure avoidance, preconstruction surveys in potential habitat are required.

The Commission notes that there is the potential for residual impacts on both species caused by sedimentation from in stream works and runoff from construction ground disturbance for both species. However, TasNetworks propose to prepare a construction soil and water management plan to address a range of planning considerations including the potential for adverse impacts on water quality, such as sedimentation, on crayfish habitats.

The Commission considers any construction soil and water management plan should have regard to the current Tasmanian best practice outlined in Part B of the TEER & DEP (2023). Erosion And Sediment Control, The Fundamentals for Development in Tasmania. Tamar Estuary and Esk Rivers (TEER) Program and Derwent Estuary Program, Tasmania, Australia, and Forest Practices Code.

The Commission considers that the mitigated risk of sedimentation produced at the scale of disturbance likely at stream crossings and riparian disturbance is not likely to cause a significant impact on habitat.

Nevertheless, the Commission considers that there is a risk of significant residual impacts from sedimentation on the Giant freshwater crayfish, due to ineffective implementation or incorrect interpretation of a project level construction soil and water management plan.

To validate the effectiveness of implementation the Commission considers that the first two access track stream crossings and headwater vegetation clearance operations should be independently audited by a certified Forest Practices Officer for the effectiveness of sediment minimisation actions employed. With any improvements identified in the audit to be employed at subsequent crossings and headwater vegetation clearances. Subsequently, 10% of all crossings in native habitat should be audited as the project progresses.

The Commission notes the range and occurrence of the Burnie burrowing crayfish and it's overlap with the project is a much smaller extent than the Giant freshwater crayfish. The Commission also notes that the Burnie burrowing crayfish's reliance on burrow fields and slow dispersal means the species is particularly vulnerable to adverse impacts from compaction and dewatering.

The Commission considers that while avoidance of works in proximity to Burnie burrowing crayfish chimneys is a preferred approach, it recognises the species cannot be reasonably translocated nor will it disperse outside the impact area. The Commission acknowledges the potential that micro-siting of towers and access tracks allowable within a permit may not exclude all works in proximity to the species' burrows/chimneys, such as vegetation clearance and modification.

The Commission considers that some works can occur within proximity to the Burnie burrowing crayfish's burrows, but it will require site specific management measures to avoid direct impacts and indirect impacts from compaction, dewatering and changes to

hydrology. The Commission notes site specific measures of this kind are most appropriately considered on a case-by-case basis through approval under an impact management plan developed by a suitably qualified planner in collaboration with a species specialist.

6.1.5 Weeds, diseases and hygiene management

TasNetworks propose to implement hygiene protocols, to be set out in a weed, disease and hygiene management plan.

The Commission notes that some parts of the AoD contain weed infestations and spreading weeds has the potential to degrade the habitat of MNES listed species. The Commission also notes that pathogens including those that cause *Phytophthora* dieback in plants and chytridiomycosis in frogs is present in Tasmania, and presents a risk to threatened ecological communities, MNES habitat and the green and gold frog respectively.

The Commission in considering the context of the project does not consider the spread of weeds or pathogens is likely to cause a significant impact on threatened ecological communities, MNES habitat or the green and gold frog (chytrid fungus).

However, the Commission recognises that the spread of weeds and pathogens is a potential adverse impact, particularly when considering potential cumulative impacts. Consequently, the Commission considers a precautionary approach warrants best practice measures to be employed to minimise the potential for introducing or spreading weeds or pathogens on the site.

The Commission's consideration of the Devil Facial Tumour Disease is set out in section 6.2.

6.1.6 Contamination

TasNetworks identify that there is a general potential for construction activities to cause contamination and particularly in relation to the potential for spills of dangerous goods or concrete slurry to enter waterways,

The Commission notes the TasNetworks advice and that the potential spills to cause adverse impact on MNES species and particularly species reliant on aquatic habitats but consider that there is potential for contamination from drilling fluid used in construction activities.

The Commission considers requiring drilling to use water-based drilling fluid with non-toxic additives will avoid the potential for contamination to be introduced by construction activities that are not spills/accidents.

The Commission considers that potential for a significant impact on and MNES species to occur due to spills is unlikely, that undertaking works in accordance with a construction soil and water management plan will minimise the potential from contaminants to enter waterways.

The Commission does not consider any specific conditions in addition to existing commitments are required to mitigate the potential for contamination of MNES species to occur, and that if contamination occurred it would be subject to other legislative instruments.

6.1.7 Collision, electrocution, poisoning and roadkill

TasNetworks EIS reports the risks of the potential for collision, electrocution and poisoning and considers that specific management measures should be applied to reduce the potential for adverse impacts.

The Commission notes that there is the potential for direct collision of raptors with conductors and optical ground wires, and indirect collision from construction related traffic. The Commission also notes that no modelling or baseline surveys of potential collision have been provided by TasNetworks.

The Commission notes the TasNetworks advice that there is a low level of evidence of collisions of raptors with transmission lines, but that collision is a threat to the species and may contribute to species decline. The Commission also notes that the proposed dual conductor arrangement is liable to be visible to the diurnal Wedge-tailed eagle but presents a higher risk of collision to the nocturnal masked owl. The Commission considers that the smaller diameter optical ground wire presents a risk of collision to both raptor species.

TasNetworks propose to prepare a raptor mortality mitigation plan, containing mitigation measures to minimise the risk of collision, including strike risk modelling and post construction surveys for carcasses over at least 2 years and include a review of effectiveness and adaptive mitigation action.

The Commission notes evidence of collision with transmission lines does not suggest that collision will have a significant impact, but it considers a precautionary approach requires the application bird diverters (or similar) on at least the optical ground wires where they are higher than the surrounding canopy and in the vicinity of eagle nests.

The Commission further considers that as a precautionary approach where Wedge-tailed eagle nests are in proximity to the transmission line and eagles are found to collide with the lines, additional mitigation and offsets are needed to manage the residual impact to the species. The Commission has included a condition setting an offset trigger under its LUPA Act permit.

The Commission considers that the typically extensive home range of masked owls along with the comparatively small amount of potential nesting habitat in proximity does not suggest that localised or specific collision mitigation actions would be beneficial.

TasNetworks identifies the potential for electrocution of raptor species as low on the understanding that conductors will be separated from towers by insulators of at least 3m. The Commission accepts this evidence and considers that the project should require insulators to separate conductors from towers by not less than 3m.

The Commission notes that the detail of proposed collision mitigation can be managed through the proposed raptor mortality mitigation plan.

TasNetworks note there is the potential for secondary poisoning by scavenger species, but particularly raptors due to the application of rodenticide at substations.

TasNetworks proposed to use rodenticides that do not rely on anticoagulants to reduce the risk of secondary poisoning. The Commission considers there is unlikely to be a significant impact on any species from secondary poisoning, but considers the precautionary approach proposed by TasNetworks will further reduce the potential for adverse impacts on MNES.

TasNetworks propose implementing a roadkill management plan citing that the presence of roadkill contributes to the collision risk to devils, quolls and raptors from construction traffic.

The Commission considers actions to mitigate roadkill and collision with MNES is required where construction traffic will increase road use by more than 10% and is outside of urban areas. The Commission considers that in taking a precautionary approach a roadkill management plan should also be applied to the potential for collision with the Eastern barred bandicoot.

The Commission notes that vehicle collision from traffic is more prevalent for Tasmanian devils, quolls, and Eastern barred bandicoots between dusk and dawn (due to species activity levels, visibility for drivers, and the like), and that TasNetworks has proposed to preferentially avoid nighttime travel and limit driving at dawn and dusk and to implement a roadkill management plan.

The Commission notes that no modelling or data has been presented of existing roadkill conditions that would enable high risk roadkill areas to be mapped and inform the roadkill management plan.

The Commission considers modelling of risk areas on public roads must be supported by robust baseline data where construction traffic is proposed to operate at greater than 10% of baseline traffic between dusk and dawn (the higher collision risk times). The Commission has included a condition in its permit to clarify requirements for baseline data in preparation of a roadkill management plan.

The Commission notes that mitigation measures, such as temporary signage, rumble strips, lowering vehicle speeds, and roadkill carcass removal, may be constrained on public roads due to safety and the need for approvals from the relevant road authority, but they are required to be addressed in a roadkill management plan. The Commission notes that passive mitigation actions, such as signage, rumble strips and carcass removal from public roads is expected to reduce the likelihood of vehicle collision with Tasmanian devils, quolls and Wedge-tailed eagles.

The Commission acknowledges that the likelihood of collision with the species from construction vehicle traffic is greater than zero. However, the Commission considers

that implementation of mitigation measures is likely to result in no increase roadkill of Tasmanian devils, quolls and Wedge-tailed eagles above a baseline of normal road use, without construction traffic.

The Commission considers requirements for the audit of the roadkill management plan implementation, review, and adaptive management of the plan where a Tasmanian devil or quoll mortality is directly linked to construction traffic, provides for continuous improvement in mitigation efficacy.

The Commission considers that the successful implementation of a roadkill management plan is expected to avoid a significant residual impact on raptors, Tasmanian devils, quolls, and Eastern barred bandicoots.

6.1.8 Illegal hunting

TasNetworks set out the intention to lock gates, subject to landowner agreement that provide access to Giant freshwater crayfish habitat to minimise the potential for illegal fishing of this species.

The Commission notes that there is existing access within or nearby to many of the waterways that provide potential habitat for the Giant freshwater crayfish.

The Commission also notes that while illegal take of the species is identified as a threat the Commission considers that the additional access roads proposed will not cause a material increase in opportunity for illegal take to occur across the species range.

However, taking a precautionary approach the Commission considers that where new tracks provide access to within 500m of class 1, 2 or 3 streams restricting access using heavy gates is warranted.

6.2 Cumulative Impacts

6.2.1 Summary of other project contributions

The Ecology report Appendix B Part 1 (Section 8.0) provides an assessment of projects contributing to cumulative impacts to MNES.

Seventeen proposed or reasonably foreseeable projects that spatially or temporally overlap the proposal are identified and listed below (Table 9) and detailed in Table 7.1 of the EIS. Thirteen other projects were identified but insufficient data were available to include them in the analysis. Suffice to say that the analysis is therefore an under estimation of cumulative impacts but remains geographically and temporally relevant.

The EIS notes that collection of information on 17 nearby projects was difficult, and in some cases unavailable. The cumulative impact assessment was also limited by incomplete and inconsistent public data on other projects, including uncertainty in extent and potential project impacts.

Information on transport routes and traffic volumes for future projects was also largely unavailable. Cumulative traffic impacts were assessed only at a broad level, focusing on the construction period and likely road use.

For several projects, ecological data were limited to unverified desktop assessments, preventing quantitative cumulative analysis.

The EIS assessment assumes projects proceed as scheduled based on available public information. Based on the information derived from project reports, and assuming effective mitigation by each project, potential cumulative impacts should not be significant.

Table 11. Projects contributing to cumulative impacts identified in the EIS.

Project	
1. Guildford Wind Farm	10. Whaleback Ridge Renewable Energy Project
2. Robbins Island Renewable Energy Park	11. Tasmanian Advanced Minerals – Hawkes Creek silica mine expansion
3. Jim's Plain Renewable Energy Park	12. Tasmanian Advanced Minerals – South Blackwater Mine
4. Robbins Island Road to Hampshire Transmission Line	13. Tasmanian Advanced Minerals – Blackwater Mine Extension
5. Staverton to Hampshire Hills Project	14. Northern Midlands Irrigation Scheme
6. Sheffield to Staverton Upgrades	15. Northern Midlands Solar Farm / Connorville Estates Pty Ltd
7. Marinus Link	16. Bell Bay Wind Farm / Equis Wind (Australia) Projects Pty Ltd
8. Hellyer Wind Farm	17. Bass Highway, upgrades between Deloraine and Devonport / Department of State Growth
9. Northern Midlands Solar Farm	

6.2.2 Cumulative impacts on MNES

TasNetworks EIS assessment of cumulative impacts was limited to MNES species that the proposal is expected to potentially have a significant impact on if no mitigation were applied.

TasNetworks identified 5 threatened fauna species as being potentially affected by cumulative impact; defined as 2 or more projects potentially effect the species. Section 7.3 of the EIS provides the extent of MNES habitat being affected by the 17 projects assessed.

The distributional and abundance data are presented (2 cases out of date). Table 11. Indicates the reported values and (updated data) as well as the habitat impact of this proposal and the cumulative additional impact from the contributing projects.

There are no criteria for the assessment of cumulative impacts under the EPBC

Table 12. Species area of occupancy, population estimate in EIS and (revised value); extent of OHTL impact and cumulative impact.

Species	Area of Occupancy	Population estimates	Proposal Impact / Cumulative Additional Impact
Tasmanian devil	64,000km ²	140,000 pre 1996 20,000-50,000 post DFTD	144ha / 1,825ha foraging and denning habitat
Spotted-tailed quoll	9 Important populations (DCEEW -1 population)	6,500 (Troy 2014).	144ha / 1,731ha foraging and denning habitat
Eastern quoll	250000 ha - TSSC 2015. (37,5000ha - Cunningham et al 2023)	10,000 (TSSC 2015)	144ha / 252ha foraging and denning habitat
Wedge-tailed eagle	22,000ha (22,000km ²)	440 breeding pairs - declining (increasing - Mooney unpub. data)	27 nests / 33 nests with 1km across the 16 additional projects (60 in total)
Giant freshwater crayfish			15 class 2/3 streams crossed and 201 class 4 streams require some vegetation clearance. 5 of 17 additional projects potentially effected habitat

Details of the impacts contributing to the cumulative impacts are not provided in the EIS; for example the number of breeding structures potentially lost or modelled impact of road kills. And so it is left to consider the area of habitat, number of nests potentially disturbed and the proportion of projects effecting the giant freshwater crayfish.

In this context, and the geotemporal context, the area of habitat cleared or modified across all tabulated projects is substantial and more than 10 times that attributed to this project.

On the other hand the number of Wedge-tailed eagle nests potentially disturbed is also substantial but the proportion of the cumulative total attributed to this OHTL project alone is more than 45%.

6.3 Significant Impacts and Offsets

Each of the species listed in Table 6 as likely to suffer a significant impact if mitigation were not undertaken are each considered in Appendix 2.

The significant impact assessments assume successful implementation of impact avoidance, minimisation, and mitigation measures.

In all cases and against all criteria no real or not remote chance of a residual impact that is important, notable or of consequence was found if avoidance and mitigation measures are successful.

The Commission notes that there is a real risk of Tasmanian devil dens not being avoided, and due to the importance of this habitat feature to the species, considers the destruction of Tasmanian devil den sites is required to be offset.

Similarly, the Commission considers that while unlikely there exists a real risk that operation of the transmission line could result in Wedge-tailed eagle collisions. Where eagle strike surveys identify mortality, the Commission considers an offset is required.

The following points clarify the Commission's interpretation of the Significant Impact Guidelines and Critical Habitat.

Significance of impacts

The following descriptors are taken from the to the Significant Impact Guidelines 1.1 (SIG).

“A significant impact is one that is important, notable or of consequence, having regard to its context or intensity.”

“The significance of impacts depends on the sensitivity, value and quality of the environment which is impacted, and on the intensity, duration, magnitude and geographic extent of the impacts.”

The Commission has taken due account of the environmental dependencies and characteristics of the residual impacts required to determine the significance of impacts for each MNES. And as such the abbreviated references to the significance of impacts for each MNES and each criterion in Appendix 2 should be read as including all these considerations. The considerations are based on data provided in the EIS, attendant Ecology Reports and ecological attributes presented in Section 5.

Likelihood of a significant impact

The Commission considers that “likely” does not require a probability greater than 50%. Under the EPBC Act, “a significant impact is an impact that has a real or not remote chance or possibility of occurring.” “If there is scientific uncertainty about the impacts of your action and potential impacts are serious or irreversible, the precautionary principle is applicable”.

The assessment has been undertaken on a conservative basis, and assuming full implementation of mitigation measures approved by the Commission and independently verified as best practice while applying precaution where uncertainty exists (as identified in the relevant sections). The scale, duration and geographic extent of residual impacts have been quantified with such a high degree of certainty that there is no plausible pathway for amplification.

Demographic data are based on accurate published data and best estimates or lower bounds have been the basis for extrapolation to population scale impacts.

On the evidence, the residual impacts are negligible relative to population size, area of occupancy, habitat extent and quality, and natural variability. The residual impacts are not of a scale or intensity capable of producing an outcome that would be important, notable or consequential in the sense contemplated by the Guidelines. In these circumstances, the occurrence of an impact meeting the guidelines description of “significant” is not supported by a credible causal pathway and is properly characterised as a remote possibility.

The precautionary principle does not elevate any theoretical or speculative possibility into a real chance. Accordingly, there is no real or not remote chance or possibility that the action will result in a significant impact.

Habitat critical to the survival of a species - “critical habitat” refers to habitat critical to the survival of a species and includes areas that are **necessary** for activities such as foraging, breeding, roosting or dispersal.

Not all habitat is necessary to sustain these activities at a level to support recovery. For example, in a territory where there are abundant breeding structures not all would/could be utilised and so not all are necessary. If the loss of a small portion of excess critical features is lost it does not cause a significant impact unless it is likely to:

- Lead to a long-term decrease in an important population.
- Reduce the area of occupancy of an important population.
- Fragment an important population.
- Adversely affect habitat critical to survival.
- Disrupt breeding in a way that affects population viability.

The Commission is not of the opinion that there remains a significant residual risk for other matters that would warrant offsets under the EPBC offsets policy.

The Department of Natural Resource Management Tasmania independently advised that it is satisfied that the proposed impact avoidance and mitigation strategies presented in the project application will result in no significant residual impacts that require offsetting under the Tasmanian Resource Management and Planning System.

6.4 Implementation of Management Measures, Monitoring and Adaptive Management

The EIS places TasNetworks’ Environmental Management System (EMS) at the top of the impact-management hierarchy. The EMS is presented as a robust framework, promoting sustainable practice through risk-based strategies, compliance with relevant standards and policies, environmental planning that embeds protection principles, and periodic review to identify gaps and improvements.

The EIS also commits to a Construction Environmental Management Plan (CEMP) that will integrate legislative requirements, environmental objectives and performance criteria, and respond to key impacts and risks identified in Chapter 6 of the EIS.

The CEMP is to include multiple subplans, including weed/pathogen, noise/vibration, erosion/sediment, rehabilitation, and threatened species measures (raptor mortality, roadkill, nest management, injured animal protocol, and den survey/decommissioning). However, despite this apparent robustness, the framework is not internally complete because essential MNES-relevant subplans are not explicitly identified or completed.

The Commission notes that as actions to mitigate the potential impacts on protected matters is reliant on the successful implementation of the EMS, robust post approvals of the EMS documents along with monitoring, auditing and adaptive management are necessary.

The Commission permit clarifies the requirements for details to be included in relevant management plans under the EMS and also requires that works (as relevant to each matter) not commence unless those plans have been provided to the satisfaction of the Commission.

The Commission's permit at condition 60 sets out the requirements for implementing a monitoring plan for compliance with conditions, independent compliance audits and reporting of those audits every 12 months for 2 years, the implementation of adaptive management where monitoring or audits indicate controls are ineffective or risks have changed, and the public release of audit summaries.

The Commission considers that post approval of management plans, monitoring, auditing and adaptive management requirements minimise the risk of adverse impacts on protected matters occurring during implementation of the EMS.

7 Conditions to address impacts

7.1 Relevant Tasmanian Conditions

The Commission has determined to grant a permit for the project under section 57 of the LUPA Act.

The Commission's permit is set out in Appendix 3.

The Commission's permit applies to a range of land use planning and ecological matters that are not related to MNES, such as threatened species listed under the Tasmanian TSP Act but not under the EPBC Act, and traffic safety.

Conditions in the Tasmanian permit that are particularly relevant to MNES include: Micrositing, Biodiversity and Natural Values conditions 12, 16, 17, 20-34, operational eagle management plan, and monitoring and auditing conditions 60, 60.1-60.5.

7.2 Conditions to address impacts on MNES

The jurisdiction of the Commission's permit does not approve all components of the of the action. The Commission's permit applies to the project defined in the Major Infrastructure Development Approvals (North West Transmission Upgrades Project) Order 2020 and cannot approve matters exempt from the LUPA Act.

The components of the action not approved under the Commission permit include:

- Changes to 22kV and low voltage distribution lines
- Removal of the 220kV single circuit transmission line, and
- Changes to the existing Palmerston, Sheffield and Burnie substations.

These components, along with cumulative impacts, have been considered as part of the Commission's assessment of MNES.

The Tasmanian permit does not include the area of vegetation or habitat to be cleared or modified for changes to the existing 22kV and low voltage distribution lines.

The Commission considers that any conditions of approval for the action should include the consequent change to the distribution network for all conditions.

The distribution of MNES habitat and occurrence indicated that the changes to the Palmerston, Sheffield and Burnie substations are unlikely to have potential impacts on MNES from construction works. However, the Commission notes that the roadkill management conditions should reasonably apply to the Palmerston and Sheffield as road access to these substations passes through potential habitat for these species.

To minimise the potential for secondary poisoning on MNES, where it necessary to control rodents, TasNetworks has proposed a management measure to use non-anticoagulant rodenticide baits at temporary building sites and switching stations. The Commission consider that this condition of approval, that applies to the Hampshire Hills switching station and temporary construction sites in the Tasmanian permit, should also apply to the operation of the Palmerston, Sheffield and Burnie substations.

Changes to the existing 22kV and low voltage distribution lines include undergrounding and rerouting overhead lines. The undergrounding crosses several watercourses and is in proximity to other water courses.

The construction of underground distribution lines has the potential to impact on the giant freshwater crayfish and Burnie burrowing crayfish through reductions in water quality (primarily from siltation) or destruction of habitat.

The Commission considers a condition that prohibits trenching in watercourses would avoid potential impacts from undergrounding distribution lines. The Commission considers that restrictions and conditions within the Tasmanian permit related to these species and those for vegetation clearance and soil and water management will provide

an adequate mitigation of potential impacts on these species for associated works in the proximity to the watercourse, when applied to the whole action.

For clarity the Commission notes there is additional habitat clearing for the Tasmanian devil, Spotted-tailed quoll and Eastern quoll associated with components of the action outside the Tasmanian permit. The total habitat clearance for these species relevant to a permit under the EPBC Act is specified in Table 8. The Commission considers that the larger habitat clearances specified in Table 8 of this report should be included in any EPBC Act permit.

8 Other matters relevant to the Minister's determination

8.1 Economic and social [s.136(b)]

The EIS at Appendix M provides a Social Impact Assessment (SIA), 17 March 2025 and an Economic Impact Assessment (EIA), 4 March 2025.

The SIA considered the potential impacts on community identity, economy and livelihoods, infrastructure services, and people's productive capacity during construction and operation of the project, and the residual impacts after mitigating actions.

The SIA identifies that post-mitigation negative:

- operational impacts will have a low significance, with the exception of the potential for introduction of weeds and disease on the agricultural sector that is rated as moderate, and
- construction impacts that have a moderate negative significance include:
 - o changes in amenity and character of the local area for nearby residents
 - o temporary changes to amenity and character that may reduce the use and availability of regional reserved, state forest and private forests
 - o availability of construction workers for other projects and industry
 - o availability of rental housing
 - o biosecurity risks to agriculture (including forestry)
 - o delays for existing road users, reducing the efficiency of the local road network

The SIA identifies post-mitigation positive social impacts during construction including:

- high significance of local and regional construction employment
- moderate significance of supporting local business through supply of goods and services, and use of short term accommodation, and providing employment opportunities to First Nations people, females, youth and socially vulnerable groups.

A range of potential impacts are identified as have an impact of major, high, or moderate Significance, that is subsequently rated at a lower threshold after the application of mitigation measures.

Tasmanian conditions either require implementation of relevant mitigation actions or provide for a variation in siting of access roads and towers that may contribute to mitigating the social impacts identified in the SIA.

Relevant conditions include those related to soil and water management, vegetation management and rehabilitation, weed disease and hygiene management, housing / accommodation, traffic management, grievance procedures, along with micro-siting and variation of plans through secondary consent and post approval processes.

The Commission notes that other actions proposed to mitigate negative social impacts, or the degree to which micro-siting or variations are applied to achieve the proposed mitigating actions will not be controlled by Tasmanian conditions.

The EIA provides a qualitative assessment of direct impacts and enabled impacts, categorising impacts as beneficial or adverse. The EIA does not provide an evaluation of the relative significance of impacts.

The EIA concludes that:

- potential beneficial impacts include supported jobs and business activity during construction, operation and any future decommissioning/refurbishment, support of short term accommodation providers, increased activity in the down stream supply chain and additional government revenue.
- potential negative impacts include competition for business resourcing, particularly staff costs and labour availability during construction, production loss and disruption to agricultural business (including forestry), housing affordability during construction, along with minor impacts on tourism due to reduced amenity.

The Commission notes that the potential beneficial direct economic effects enabled by the project particularly the low cost supply to meet renewable energy targets, potential electricity cost saving to consumers, and reduced Green House Gas emissions are reliant on assumptions of future conditions. The Commission considers that these enabled economic benefits are better regarded as aspirational long-term goals.

8.2 Community engagement [s.3(2)(g)]

TasNetworks EIS sets out the community engagement undertaken prior to the statutory assessment processes, in chapter 3 and provides stakeholder engagement reports in Appendix L.

TasNetworks have undertaken a range of consultation and engagement activities with State and Local Government organisations, landowners, public and community groups, including with First Nations People and Communities.

TasNetworks reports that consultation (outside of statutory processes) first occurred in conjunction with route selection in 2019 and continued in preparation of the EIS from 2021 through to 2024.

TasNetworks explicit engagement with First Nations People and Communities is noted in section 3.5.5.2 of chapter 3 and Appendix N.

The Commission notes TasNetworks propose a range of management measures to provide employment opportunities and procure goods and services locally and from Aboriginal and Torres Strait Islander businesses, but these measures are not required by any conditions under the Commission Permit.

8.3 Conventions

Section 139(1)(a) of the EPBC Act sets out the consideration of Australia's obligations under conventions when deciding whether or not to approve the taking of an action related to a listed threatened species or listed threatened ecological community.

The Commission notes that the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) relates to trade, and trade is not a component of the action.

The Commission notes the Biodiversity Convention¹⁰ and Apia Convention¹¹ are high level documents committing the parties to, amongst other matters, take actions related to the conservation of biodiversity and natural resources and their sustainable use.

The Commission notes the consultation undertaken as part of this assessment and the considerations under the EPBC Act is aligned with actions under these conventions.

The conventions do not prohibit the taking of the action where there is no or not likely to be a significant impact.

¹⁰ Convention on Biological Diversity done at Rio de Janeiro on 5 June 1992, as amended and in force for Australia from time to time.

¹¹ Convention on Conservation of Nature in the South Pacific, done at Apia, Western Samoa, on 12 June 1976, as amended and in force for Australia from time to time.

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Appendix 1. Management measures to be applied to each MNES species and TEC's

Derived from EIS Table 6.6 and 6.9

Tasmanian devil	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 in: raptor mortality plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
Direct loss of species												1		1		1	1														
Loss and fragmentation or habitat from native vegetation clearance and ground disturbance		1	1				1			1	1	1	1			1		1													
Disturbance to breeding due to increased activity and noise					1		1								1				1												
Degradation of habitat from the introduction of weeds, diseases and invasive species	1	1		1																			1								
Degradation of habitat from contamination (including dust)																			1							1	1	1			
Mortality or injury of fauna individuals from collision with vehicles and machinery																							1							1	

Spotted-tailed quoll	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
Direct loss of species												1		1		1	1														
Loss and fragmentation or habitat from native vegetation clearance and ground disturbance		1	1				1			1	1	1	1			1		1													
Disturbance to breeding due to increased activity and noise					1		1								1				1												
Degradation of habitat from the introduction of weeds, diseases and invasive species	1	1	1																				1								
Degradation of habitat from contamination (including dust)																			1								1	1	1		
Mortality or injury of fauna individuals from collision with vehicles and machinery																						1								1	

Eastern quoll	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
Direct loss of species																															
Loss and fragmentation or habitat from native vegetation clearance and ground disturbance																															
Disturbance to breeding due to increased activity and noise																															
Degradation of habitat from the introduction of weeds, diseases and invasive species																															
Degradation of habitat from contamination (including dust)																															

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Eastern-barred bandicoot	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
Direct loss of species												☐		☐			☐														
Loss and fragmentation or habitat from native vegetation clearance and ground disturbance		☐	☐				☐			☐	☐	☐	☐					☐													
Disturbance to breeding due to increased activity and noise					☐		☐												☐												
Degradation of habitat from the introduction of weeds, diseases and invasive species	☐	☐		☐																				☐							
Degradation of habitat from contamination (including dust)																			☐								☐	☐	☐		
Mortality or injury of fauna individuals from collision with vehicles and machinery																						☐								☐	

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Degradation of habitat from the introduction of weeds, diseases and invasive species	☐	☐		☐																		☐							
Degradation of habitat from contamination (including dust)																☐							☐	☐	☐				
Mortality or injury of fauna individuals from collision with vehicles and machinery																		☐	☐							☐			

Azure kingfisher	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
Direct loss of species												☐		☐																	
Loss and fragmentation or habitat from native vegetation clearance and ground disturbance		☐	☐				☐			☐	☐	☐	☐								☐										
Disturbance to breeding due to increased activity and noise					☐		☐				☐								☐												
Degradation of habitat from the introduction of weeds, diseases and invasive species	☐	☐		☐																			☐								
Degradation of habitat from contamination (including dust)																			☐								☐	☐	☐		
Mortality or injury of fauna individuals from collision with vehicles and machinery																														☐	

Swift parrot	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
Direct loss of species												☐		☐																	
Mortality or injury of birds from collision or electrocution												☐									☐										
Loss and fragmentation or habitat from native vegetation clearance and ground disturbance		☐	☐				☐			☐	☐	☐	☐																		

Disturbance to breeding due to increased activity and noise					☐		☐				☐							☐											
Degradation of habitat from the introduction of weeds, diseases and invasive species	☐	☐		☐							☐										☐								
Degradation of habitat from contamination (including dust)																		☐							☐	☐	☐		
Mortality or injury of fauna individuals from collision with vehicles and machinery																					☐							☐	

Masked owl	CM07 Poison Mtigation	CM14 Rehab Plan	CM20 Habitat Mtigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
Direct loss of species												☐																			
Mortality or injury of birds from collision or electrocution																															
Loss and fragmentation or habitat from native vegetation clearance and ground disturbance		☐	☐				☐			☐	☐	☐	☐										☐								
Disturbance to breeding due to increased activity and noise							☐				1								☐					☐							
Degradation of habitat from the introduction of weeds, diseases and invasive species	☐	☐		☐																											
Degradation of habitat from contamination (including dust)																			☐								☐	☐	☐		

White-throated Needletail	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
Direct loss of species												☐																			
Mortality or injury of birds from collision or electrocution																															

Loss and fragmentation or habitat from native vegetation clearance and ground disturbance		☐	☐				☐			☐	☐	☐	☐										☐							
Degradation of habitat from the introduction of weeds, diseases and invasive species	☐	☐		☐																										
Degradation of habitat from contamination (including dust)																		☐							☐	☐	☐			

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Burnie burrowing crayfish	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM67 Access Restriction	SM076 Hydrogeological	
Direct loss of species												☐			☐																	
Degradation of aquatic fauna habitat from erosion and sedimentation of streams		☐				☐		☐	☐																☐	☐						
Loss and fragmentation or habitat							☐			☐	☐	☐	☐								☐											
Degradation of habitat from the introduction of weeds, diseases and invasive species	☐	☐		☐																			☐									
Degradation of habitat from contamination (including dust)																			☐								☐	☐	☐			
Potential to reduce groundwater recharge rates																			☐								☐	☐	☐			☐

Green and gold frog	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM28 Water Crossing	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM40 Habitat Clearance Harm Minimisation	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
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Vegetation communities and threatened flora	CM07 Poison Mitigation	CM14 Rehab Plan	CM20 Habitat Mitigation	CM23 Weed Man Plan	CM24 Noise Vibe Plan	CM30 Riparian Management	CM31 Microsite Avoidance	CM33 Erosion / Sed Plan	CM34 Clearance Manage'	CM37 Habitat Connectivity	CM38 Habitat Avoidance	CM39 Hazard Tree Removal	CM41 Disturbance Minimisation	CM44 Habitat Clearance Harm Minimisation	CM46 Preclearance Surveys	CM47 Habitat Clearance Harm Minimisation	CM48 Trench Management	CM51 Retain Ground Cover and Woody Debris	CM52 Dust Management	CM53 Nest Tree Hollow Disturbance Man'	CM55 Aquatic Habitat Protection	CM56 Raptor Mortality Plan	CM58 Injured Animal Protocol	CM59 Hygiene / Biosecurity	CM60 Riparian / Aquatic Habitat Protection	CM61 Soil Windrow Man'	CM63 Contamination Man'	CM64 Contamination Man'	CM65 Contamination Man'	CM66 Roadkill Man Plan	CM67 Access Restriction
Loss of threatened flora individuals and habitat and loss of vegetation communities		1	1			1	1			1	1																				1
Degradation of threatened flora habitat and vegetation communities from the introduction of weeds, diseases and invasive species		1		1					1													1	1								
Degradation of threatened flora habitat and vegetation communities from contamination (including dust)																											1	1	1		

Appendix 2 Significant Impact Assessments

The following tables respond to the Significant Impact Assessment criteria and include the likelihood of residual impacts in the context of relevant demographic and ecological data. The species included are those for which a significant impact is likely in the absence of mitigation. The comments in the tables below should be read in conjunction with the Commissions interpretation of significant impacts detailed in Sections 5 and 6.

Tasmanian devil

Significant Impact Criteria¹² (statements adjusted for endangered status of species)	Likelihood of significant impact	Context
Lead to a long-term decrease in the size of a population	Unlikely	The rapid decline in the population observed from approximately 1995 is attributable to the emergence of Devil Facial Tumour Disease (DFTD), which became established at that time. This followed a period of population growth to an estimated peak of around 130,000 individuals, likely exceeding pre-European levels due to increased foraging opportunities associated with the introduction of livestock. The population is now estimated by be around 15 000 individuals or about 75% of the relatively low pre European estimate of 20 000 animals. The site occurs within tens of thousands of ha of continuous suitable habitat. The proposed action involves modification 193 ha of foraging habitat which includes about 139ha of denning habitat. Current density of animals is about 0.5 per km² so the AoD may support about 1 devil with a carrying capacity of perhaps 4 devils pre DFTD. Additionally, roadkill mitigation will result in more devils surviving by reducing the numbers being killed by other road users on the same roads included in the mitigation plan. This

¹² Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

Significant Impact Criteria¹² (statements adjusted for endangered status of species)	Likelihood of significant impact	Context
		increased survival will assist in buffering the population against decline. Furthermore, with den management protocols the proposal will avoid breeding disruption. The real risk of any residual impact from the displacement of less than 1 devil is ecologically not of consequence to population maintenance in the long-term. This is based on the IUCN definition of long-term as the longer of 10 years or 3 generations. Under current low population conditions, the surrounding habitat can accommodate a displaced animal with no adverse outcome on the size of the population due to competitive exclusion. The certainty of this is reenforced by the characteristic feature of overlapping ranges among devils. No significant impact is likely.
Reduce the area of occupancy of the species	Unlikely	The action involves modification of 215 ha of habitat. All of this habitat will remain available for foraging while 139 ha of denning habitat will be modified or cleared. This total disturbed area represents less than 0.004% of the 35000 km² Area of Occupancy of the population. Because all habitat will still be suitable to forage there in no loss of AO. No significant impact is likely.
Fragment an existing population into two or more populations	Unlikely	The proposal does not fragment the extensive habitat in the region and given the dispersal capabilities of the devil and its utilisation of linear land clearance no significant risk of fragmentation of the population.
Adversely affect habitat critical to the survival of a species	Unlikely	Critical habitat is not defined in the Conservation Advice. Habitat critical to the survival of a species includes areas that are necessary for activities such as foraging, breeding, roosting or dispersal.

Significant Impact Criteria¹² (statements adjusted for endangered status of species)	Likelihood of significant impact	Context
		In this case foraging habitat will be retained and 139 ha of potential denning habitat will be modified. Dens within this area could be necessary habitat if the land were at carrying capacity that was limited by den availability. In this landscape there are likely to be many more den opportunities at carrying capacity than the number used by devils and so not all may be necessary. Mitigation will ensure than no known dens are disturbed and connectivity for dispersal will be maintained. No significant impact is likely.
Disrupt the breeding cycle of a population	Unlikely	The proposed action involves the modification of 139 ha with potential denning opportunities representing approximately 12.5% of an average sized female home range. The survey area does not contain distinctive structural opportunities to support significant den clusters, such as cavernous rocky outcrops. No den opportunities were observed and if present are assumed to be isolated and sparse. If dens are located in preclearance surveys prior to development, then den monitoring protocols will ensure that no natal dens are disturbed. Should a natal den be decommissioned after the breeding season the female will have sufficient time to utilise an alternative den for the subsequent breeding season. The short devil life span and low reproductive age provide for higher reproductive rates leading to faster generational turnover and a reduced impact of the loss of 1 breeding cycle of 1 devil; and hence if disturbance to one breeding cycle were to occur, the disruption to the population would be negligible. It is acknowledged that 1 breeding cycle is more important when a population is relatively low and in recovery mode but the potential impact remains low. No significant impact is likely.

Significant Impact Criteria¹² (statements adjusted for endangered status of species)	Likelihood of significant impact	Context
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	The devil is distributed across 65 000 km² or virtually the whole of Tasmania. The proposed action involves modification of 139 ha of habitat potentially supporting dens. This total disturbed area represents less than 0.004% of the 35 000 km² Area of Occupancy of the population. The activity will not significantly decrease the utilisation of habitat through modification in the long term and there are alternative den opportunities remaining in the landscape. No significant impact is likely.
Result in invasive species that are harmful to the species becoming established in the species' habitat	Unlikely	The only invasive species that is listed as harmful to the species is the red fox¹³. The site is not in preferred or known fox habitat. The statewide biosecurity controls will ensure that there is no real chance of the fox becoming established in the habitat. The project will contribute to the risk and so no significant impact is likely.
Introduce disease that may cause the species to decline	Unlikely	Devil Facial Tumour Disease (DFTD) is an infectious, spreading cancer that has caused dramatic declines in the species¹⁴. The project is unlikely to impact the spread or introduction of DFTD to the local population of devils because no change to vectors will be introduced. Tasmanian devils are known to be susceptible to toxoplasmosis (<i>Toxoplasma gondii</i>), based on documented serological and pathological evidence. Toxoplasmosis and potential exposure to exotic diseases (especially through interactions

¹³ Department of the Environment (2020) *Sarcophilus harrisii* in Species Profile and Threats Database

¹⁴ Hawkins *et al.* (2006)

Significant Impact Criteria¹² (statements adjusted for endangered status of species)	Likelihood of significant impact	Context
		with feral or domestic animals) are recognised ongoing risks. Toxoplasmosis is highly prevalent in feral cats in Tasmania. The proposal is likely to result in more frequent utilisation of the easement for feral cats. However, feral cats are pervasive in Tasmania and the linear access provided may not result in an increased prevalence of Toxoplasmosis. There is no real or not remote risk of increasing the density of feral cats or infected prey such that there is no real or not remote chance of an impact that is important, notable or of consequence. No significant impact is likely
Interfere with the recovery of the species	Unlikely	Recovery of this species centres around the management of DFTD, but reduction in habitat loss (denning and foraging) and roadkill will also support recovery. The proposed project will not pose any interference to the abatement of DFTD. The road kill mitigation plan will ensure a net gain in devil numbers such that it will contribute to recovery. The mitigation measures, demographic and ecological statistics presented above demonstrate that there is no real chance of habitat loss and roadkill causing an impact that is important, notable or of consequence to recovery. No significant impact is likely.

Spotted-tailed quoll

Significant Impact Criteria¹⁵ (statements adjusted for vulnerable status)	Likelihood of significant impact	Context
Lead to a long-term decrease in the size of an important population	Unlikely	The proposed action involves the progressive modification of 193 ha of habitat including clearing 33 ha. The 193 ha includes 140 ha of denning habitat. The main impact section occurs within an area of over 3000 of continuous habitat. The route likely traverses 3-6 female home ranges based on area size and productivity. The probability of natal dens being along the route is low based on area ratios and avoidance of preferred habitat. With den management protocols the proposal will avoid breeding disruption. Any residual risk from the potential loss of one female is not ecologically of consequence to population maintenance in a habitat area in which the juvenile offspring will adopt the territory and begin breeding. This is because the species' short lifespan and early maturity provide for higher reproductive rates leading to faster generational turnover and a reduced impact of an individual loss over the long term; in this case assuming 3 generations or about 12 years as long-term. Furthermore, roadkill mitigation will result in reduced deaths of quolls on treated public roads. Therefore, the construction phases' roadkill mitigation will help to buffer the population. No significant impact is likely..
Reduce the area of occupancy of the	Unlikely	The proposed action involves the modification of 193 ha of habitat including clearing 33 ha. This total disturbed area represents less than 0.008% of the 25,000 km² Area of

¹⁵ Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

Significant Impact Criteria¹⁵ (statements adjusted for vulnerable status)	Likelihood of significant impact	Context
important population		Occupancy of the important population. Given the continued availability of the habitat for foraging and dispersing and the geographic extent such that the impact is so negligible that there is no real or not remote chance of an impact that is important, notable or of consequence to the AO.
Fragment an existing population into two or more important populations	Unlikely	Spotted-tailed quolls utilise linear clearance such as along roads and easements to travel within home ranges and to disperse. As such the easement and tracks will not fragment the extensive habitat in the region and given the dispersal capabilities of the quoll there is no real or not remote risk of fragmentation of the population. The easement and track locations within an extensive habitat and relatively small geographic extent are so limited that there is no impact that is important, notable or of consequence in relation to fragmentation. No significant impact is likely.
Adversely affect habitat critical to the survival of a species	Unlikely	Belcher (2000), as cited in the national recovery plan, describes critical habitat for the spotted-tailed quoll as large patches of forest with adequate denning resources and relatively high densities of medium-sized mammalian prey. The proposed action occurs within a region containing vast areas of critical habitat, the specific site is situated on low-fertility silica sands, which support lower prey abundance and offer fewer denning opportunities due to limited rocky outcrops and large logs. Critical habitat is defined by ecological characteristics, not mapped boundaries. Using a conservative estimate using Troy et al. (2011) estimates, the 50% kernel—representing the core use area (including the den)—can be around 25% of the home range or area of occupancy. On this basis, the proposed 193 ha impact represents just 0.035% of the 50% kernel of the AO of the species. Given its small size, suboptimal quality being largely mid to high slopes, the proposal does not qualitatively nor quantitatively result in a real or not remote chance of an impact that is

Significant Impact Criteria¹⁵ (statements adjusted for vulnerable status)	Likelihood of significant impact	Context
		important, notable or of consequence to critical habitat. No significant impact is likely.
Disrupt the breeding cycle of an important population	Unlikely	The proposed action involves the modification of 193 ha of habitat including clearing 33 ha representing approximately 50% of a medium sized and quality female home range. Based on ecological context and habitat characteristics, the vast majority of this area is likely to fall outside the core 50% kernel including the den (estimated at ~125 ha), which is typically located in more productive habitats, such as the streamside zone where denning opportunities are more frequent due to greater structural complexity and prey abundance rather than more open mid to high slopes. Stream areas between steep hills are unlikely to require easement clearance and so dens here will not be disturbed. The short quoll life span and low reproductive age provide for higher reproductive rates leading to faster generational turnover and a reduced impact of an individual loss; and hence, if breeding disturbance were to occur, the disruption of 1 cycle is negligible. This is supported by studies (e.g., Belcher 2003; Claridge et al. 2005; Fancourt 2016) that indicate that ST Quolls are philopatric. A philopatric daughter that is already near breeding age (maturity ~12 months in spotted-tailed quolls, though many breed first at 2 years) can step into that space without the delays caused by vacant territories. Furthermore, mitigation measures—specifically pre-clearance den searches and seasonal timing—will ensure that active natal dens are avoided, thereby eliminating the risk of disrupting the breeding cycle. Roadkill mitigation will result in a net saving of quolls on public roads by also reducing the numbers already being killed on those roads by other users reducing existing disruption to the breeding cycle. Given the breeding ecology, location, intensity, and scale of the proposed disturbance, and the application of management measures, there is no real or not remote chance of causing

Significant Impact Criteria ¹⁵ (statements adjusted for vulnerable status)	Likelihood of significant impact	Context
		an impact that is important, notable or of consequence to the breeding cycle of the population. No significant impact is likely.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	The proposed action involves the modification of 193 ha of habitat including clearing 33 ha. This represents approximately 0.008% of the spotted-tailed quoll's estimated 25,000 km² area of occupancy and is located in a broader landscape of extensive, high-quality habitat. The affected area is likely outside the species' 50% kernel and therefore less likely to support a den. The clearance requirements of the easement do not include the low in the landscape streamside areas and low slopes where the dens are most likely to be. Habitat outside of the 50% kernel only 33 ha will be cleared to the ground and the balance of habitat will retain ground cover to midstory. This habitat will continue to be used. Due to the limited scale of habitat modification, there is no real or not remote chance of causing an impact to the habitat that is important, notable or of consequence. No significant impact is likely.
Result in invasive species that are harmful to the species becoming established in the species' habitat	Unlikely	Invasive species that are harmful to the species include cats, dogs, and foxes ¹⁶ . The proposal is likely to result in access to the easement for feral cats. However, feral cats are pervasive in Tasmania and the access provided will not result in new areas being invaded. No significant impact is likely.
Introduce disease that may cause the species to	Unlikely	Toxoplasmosis and potential exposure to exotic diseases (especially through interactions with feral or domestic animals) are recognised ongoing risks. Toxoplasmosis is highly

¹⁶ Department of Environment, Land, Water and Planning (2016)

Significant Impact Criteria¹⁵ (statements adjusted for vulnerable status)	Likelihood of significant impact	Context
decline		prevalent in feral cats in Tasmania. The proposal is likely to result in access to the easement for feral cats. However, feral cats are pervasive in Tasmania and the linear access provided will not result in an increased prevalence of Toxoplasmosis. There is no real or not remote chance of causing an impact that is important, notable or of consequence that could cause species decline. No significant impact is likely.
Interfere substantially with the recovery of the species	Unlikely	Recovery of this species is primarily dependent upon the protection of existing habitat. The proposed action involves modifying 213 ha of habitat and clearing 33 ha. Roadkill mitigation will result in a net saving of quolls lives by reducing the numbers of quolls being killed by other road users on the public roads in the mitigation plan. Because the net gain from roadkill mitigation and the negligible area being affected (at 0.008% of the AO) there is no real or not remote chance of the partial clearance and habitat conversion interfering materially with the recovery process. No significant impact is likely.

Eastern Quoll

Significant Impact Criteria ¹⁷ (statements adjusted for endangered status of species)	Likelihood of significant impact	Context
Lead to a long-term decrease in the size of a population	Unlikely	The site occurs within tens of thousands of ha of continuous suitable habitat. The population is estimated to be around 10 000 individuals. The rapid recent decline has been attributed to climatic extremes while other threats act as limiting <i>factors</i> preventing recovery. The proposed action involves modification of 89 ha of potential denning habitat with 65 ha of that retaining the understorey. The density is not known and so the number of affected individuals cannot be estimated. Additionally, roadkill mitigation will result in more Eastern quolls surviving by reducing the numbers being killed by other road users on the same roads included in the mitigation plan. This is a net gain against background losses. By applying the den management protocols the proposal will avoid breeding disruption. Under current low population conditions, the surrounding habitat can accommodate displaced animals where prey availability is not limiting with no adverse outcome on the size of the population in the long-term. Therefore, the impact's limited intensity, duration, magnitude, and extent mean there is no real chance of an impact that is important, notable or of consequence to the size of the population. No Significant impact is likely.
Reduce the area of occupancy of the species	Unlikely	The proposed action involves modification of 89 ha of habitat (clearance of 23). All of this habitat will remain available for foraging while 65 ha of denning habitat will be modified but suitable for denning. This total cleared area represents less than 0.006% of the 3750 km² Area of Occupancy of

¹⁷ Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

Significant Impact Criteria¹⁷ (statements adjusted for endangered status of species)	Likelihood of significant impact	Context
		the population. Because all habitat will still be suitable to forage or traversing there in no loss of AO and consequently no real or not remote chance of an impact that is important, notable or of consequence in regard to AO.
Fragment an existing population into two or more populations	Unlikely	The proposal does not fragment the extensive habitat in the landscape. . The total distance across the easement in which a small portion has been converted while the balance retains protective cover will not fragment the habitat and thus the landscape will retain connectivity. The Eastern quoll naturally occurs in a patchy or fragmented distribution reflecting suitable habitat patches. Given the dispersal capabilities of the Eastern quoll and its utilisation of narrow linear partial land clearance there is no real or not remote risk of fragmentation of the population. No significant impact is likely.
Adversely affect habitat critical to the survival of a species	Unlikely	Critical habitat is not defined in the Conservation Advice. Habitat critical to the survival of a species includes areas that are necessary for activities such as foraging, breeding, roosting or dispersal. In this case foraging habitat will be retained and 23 ha that may support potential denning habitat will be cleared. Denning opportunities within this area are not all necessary because the habitat is not at carrying capacity. In this landscape there are many more den opportunities than the number used by Eastern quolls for breeding and so not all are necessary. Mitigation will ensure than no active dens are disturbed. The action does not pose a real or not remote chance of an impact that is important, notable or of consequence habitat critical to the survival of the species. No significant impact is likely.

Significant Impact Criteria¹⁷ (statements adjusted for endangered status of species)	Likelihood of significant impact	Context
Disrupt the breeding cycle of a population	Unlikely	No den opportunities were observed. If dens are located in preclearance surveys, then den monitoring protocols will ensure that no natal dens are disturbed. Should a natal den be decommissioned after the breeding season the female will have sufficient time to utilise an alternative den for the subsequent breeding season. The short Eastern quoll life span and low reproductive age provide for high reproductive rates and fast generational turnover. This reduces the impact of the loss of 1 breeding cycle of 1 Eastern quoll; and hence if disturbance to one breeding cycle were to occur, the disruption to the population would be negligible. Eastern quolls breed annually, producing litters of up to six young, and reach sexual maturity at approximately one year of age (Jones & Rose 2001; Fancourt 2015). Given this life history and a generation length of about two years (TSSC 2016), the demographic effect of a single missed breeding cohort would be expected to be replaced within approximately three generations, or about six years assuming sufficient adult breeding females persist. Given the location, intensity, and scale of the potential habitat disturbance, the application of management measures and the breeding ecology of Eastern quolls, there is no real or not remote chance of an impact that is important, notable or of consequence to the breeding cycle of the population. No significant impact is likely.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	The Eastern quoll occurs on 3 750 km² throughout most of Tasmania. The proposed action involves modification of 89 ha of habitat with just 23 ha being cleared. This total disturbed area represents less than 0.006% of the AO. The 65 ha of modified but usable habitat is 0.017% of AO. Given the location, intensity, and scale of the proposed disturbance there is no real or not remote chance of an impact on habitat that is important, notable or of consequence to the

Significant Impact Criteria¹⁷ (statements adjusted for endangered status of species)	Likelihood of significant impact	Context
		extent that the species is likely to decline. No significant impact is likely.
Result in invasive species that are harmful to the species becoming established in the species' habitat	Unlikely	Invasive species that are harmful to the species include cats, dogs, and foxes. The proposal is likely to result in access to the easement for feral cats. However, feral cats are pervasive in Tasmania and the access provided will not result in new areas being invaded. No significant impact is likely.
Introduce disease that may cause the species to decline	Unlikely	Toxoplasmosis and potential exposure to exotic diseases (especially through interactions with feral or domestic animals) are recognised ongoing risks. Toxoplasmosis is highly prevalent in feral cats in Tasmania. The proposal is likely to result in access to the easement for feral cats. However, feral cats are pervasive in Tasmania and the linear access provided will not result in an increased prevalence of Toxoplasmosis. There is no real or not remote chance of causing an impact that is important, notable or of consequence that could cause species decline. No significant impact is likely.
Interfere with the recovery of the species	Unlikely	Recovery of this species centres around the management of predation and reduced pressure from feral cats and dogs, disease management and road mortality The proposed project will not pose any interference to the abatement of these threats. The road kill mitigation plan will ensure a net gain in Eastern quoll numbers such that it will contribute to recovery. The demographic and ecological statistics presented above demonstrate that there is no real chance of habitat loss and roadkill causing an impact that is important, notable or of consequence to recovery. No significant impact is likely.

Wedge-tailed eagle

Significant Impact Criteria¹⁸ (statements adjusted for endangered status of species)	Likelihood of significant residual impact	Context
Lead to a long-term decrease in the size of a population	Unlikely	With successful mitigation and efficacy monitoring in place, the residual impact on Wedge-tailed Eagles can be set in the context of the species' demography. The population is estimated at around 1,000 birds across a minimum 22,000 km² area of occupancy, with ~400 territories and a density of ~0.02 birds/km² (Mooney 2005; Mooney unpublished 2025). Given this broad distribution, long generation (~18 years) and multiple potential nesting sites within each territory, the loss or reduced productivity of a small number of nests with alternative sites, is unlikely to drive a population-wide decline because the risk of this is not a real or not remote chance or possibility. In the event that breeding failure occurs in one or more nests due to the mitigated impact the significance is not important, notable or of consequence.
Reduce the area of occupancy of the species	Unlikely	The minimum Area of Occupancy of ~22,000 km², encompassing about 400 territories each averaging 55 km² (Mooney 2005; Mooney unpublished 2025). The AoD and associated vegetation clearance including future potential nesting (144 ha) of native vegetation is 0.006% to the total AO and will not exclude its utilisation for foraging. With this negligible fraction of the AO affected but not reduced there is no real or not remote chance of an impact that is important, notable or of consequence to the AO.
Fragment an existing population into two or more populations	Unlikely	The Tasmanian population functions as a single population with discontinuous occupancy. Apparent gaps reflect areas not currently held as territories rather than barriers to movement. The proposed 144 ha clearance is likely to cross numerous territories due to the length of the easement but will not fragment any territory, nor does it present any

¹⁸ Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

Significant Impact Criteria¹⁸ (statements adjusted for endangered status of species)	Likelihood of significant residual impact	Context
		quantifiable risk of fragmenting the population. As a powerful, wide-ranging flier capable of moving between habitat patches, the species is less vulnerable to habitat fragmentation than sedentary, terrestrial taxa.
Adversely affect habitat critical to the survival of a species	Unlikely	Habitat critical to the survival of a species refers to areas that are necessary for activities such as foraging, breeding, roosting or dispersal. Not all habitat is necessary to sustain these activities for the species. That is, in a territory where there are many suitable nest or roost trees not all would / could be utilised and so not all are necessary. The area of foraging habitat will not be adversely affected. The proposed action involves clearing 30 ha of future potential nest and roost tree habitat across multiple territories. The surrounding habitat has alternative nest trees in every case. The clearance of 30 ha of habitat represents 0.001% of the AO and has no real chance of causing an adverse impact that is important, notable or of consequence to critical habitat that.
Disrupt the breeding cycle of a population	Unlikely	Mitigation actions to avoid nest disturbance aim to ensure no breeding effort will be abandoned or caused to fail. The population holds 400 occupied territories, annual productivity at the statewide scale is estimated at ~200 fledglings per year (0.5 young × 400 nests). The loss of one breeding attempt by one pair equates to ~0.5 fledglings, or 0.25% of the expected annual cohort. In the context of the whole population of 1000 birds including juveniles with no territory, this one-year loss is negligible, and given the species' generation length (15 years) and multiple nesting opportunities within a territory, it is unlikely to alter long-term demographic trends. So there is no real or not remote chance of causing an impact to the populations breeding cycle that is important, notable or of consequence.

Significant Impact Criteria¹⁸ (statements adjusted for endangered status of species)	Likelihood of significant residual impact	Context
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	The Wedge-tailed eagle is distributed across at least 22 000 km². The proposed action involves clearing 134 ha of forest habitat. This total disturbed area represents a negligible 0.006% of the 22 000 km² of available habitat. The loss of 30 ha of future potential nesting habitat is 0.001% of the AO. The disturbance does not remove it from foraging potential and alternative nest habitat is available within each territory. Given the location, intensity, and negligible scale of the impact there is no real or not remote chance of causing an impact that is important, notable or of consequence to the extent that the species is likely to decline.
Result in invasive species that are harmful to the species becoming established in the species' habitat	Unlikely	No invasive species are listed as harmful to the species. The proposed project is unlikely to result in establishment of any harmful invasive species.
Introduce disease that may cause the species to decline	Unlikely	No diseases are listed as potential causes of decline.
Interfere with the recovery of the species	Unlikely	Recovery of this species centres around the management of nest disturbance and productivity. Mitigation monitoring and efficacy testing with adaptive management The proposal will ensure no nest is abandoned or caused to fail. The project will not cause any interference with the abatement of threats.

Giant freshwater crayfish

Significant Impact Criteria ¹⁹ (statements adjusted for vulnerable status)	Likelihood of significant impact	Comments
Lead to a long-term decrease in the size of an important population	Unlikely	The proposal includes crossing streams in potential habitat for adults and juveniles. Water quality management including erosion and sediment controls, as well as culvert placement and riverbank protection at the crossing as set out in the management measures will avoid impacts. The limited intensity, duration, magnitude, and geographic extent of the crossing is so small that there is no real or not remote chance of causing an impact that is important, notable or of consequence to the size of the population in the long term (IUCN - 3 generations – 90 years).
Reduce the area of occupancy of the important population	Unlikely	The 6000 km² Area of Occupancy (AO) beyond the site will not be disturbed. Water quality management including erosion and sediment controls will ensure that the risk of the loss of GFC from the habitat is avoided and hence the AO of the population will not be reduced. There is no real or not remote chance that water quality management will fail once effectiveness and compliance requirements are met. The impact avoidance strategy and monitoring regime will be detailed in relevant subplans. The limited intensity, duration, magnitude, and geographic extent is so small that there is no real or not remote chance of causing an impact that is important, notable or of consequence to the AO.

¹⁹ Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

Significant Impact Criteria¹⁹ (statements adjusted for vulnerable status)	Likelihood of significant impact	Comments
Fragment an existing population into two or more important populations	Unlikely	The proposal does not fragment the habitat in the region. Creek crossings and water quality management of the site will ensure that the risk of any isolation of the population is avoided. Details of management provisions are in the EIS and Appendix 1. The site's location, operation, intensity, duration, magnitude and geographic extent are so limited and isolated from the population that there is no real or not remote risk of fragmentation.
Adversely affect habitat critical to the survival of a species	Unlikely	Habitat critical to the survival of a species refers to areas that are necessary for activities such as foraging, breeding, roosting or dispersal. Not all habitat is necessary to sustain these activities for the species. Critical habitat is defined by ecological characteristics, not mapped boundaries. For the GFC critical habitat is streams providing suitable habitats for breeding including shade protected pools, bank overhangs, rocks and logs with detritus. As well as habitat suitable for the protection of juveniles. Water quality management of the site will ensure that the residual risk of any impact to critical habitat from sediment is avoided. Details of management provisions are in the EIS and listed in Appendix 1. The impact avoidance provisions, the limited intensity, duration, magnitude, and geographic extent are so small that there is no real or not remote chance of causing an impact that is important, notable or of consequence to critical habitat.
Disrupt the breeding cycle of an important population	Unlikely	Water quality management at the site will ensure that the risk of any detrimental downstream impact to breeding individuals is avoided. Details of management provisions are in the EIS and are listed in Appendix 1. The limited intensity, duration, magnitude, and geographic extent are so restricted that there is no real or not remote chance of

Significant Impact Criteria¹⁹ (statements adjusted for vulnerable status)	Likelihood of significant impact	Comments
		causing an impact that is important, notable or of consequence to the breeding cycle of the population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	Creek crossings and water quality management including erosion and sediment controls will ensure that the residual risk of any impact to suitable habitat will be avoided. Details of management measures are set out in the EIS and will be included in relevant subplans. Due to the limited scale, short duration, low intensity there is no real or not remote residual risk that the habitat disturbance will cause an impact that is important, notable or of consequence to the extent that the species is likely to decline.
Result in invasive species that are harmful to the species becoming established in the species' habitat	Unlikely	There are no known threats from any invasive species. However, large brown trout have been noted as potential predators (Bobbi 2006). There has been no documented evidence of impacts from trout. The proposal will have no influence on trout and so there is no real or not remote chance of the proposal causing an increased impact of trout on GFC.
Introduce disease that may cause the species to decline	Unlikely	A number of diseases are reported largely from habitat with poor water quality (Bobbi 2006). Water quality management of the site will ensure that the risk of any increased impact caused by disease is avoided. There is no real or not remote chance of causing an impact that is important, notable or of consequence.
Interfere substantially with the recovery of the species	Unlikely	Illegal fishing remains the main threat to the species along with habitat degradation (siltation and lack of shade) and climate change. Many streams in the area already have public road access. Access will be controlled to the easement and access tracks as per the management measures in the EIS.

Significant Impact Criteria¹⁹ (statements adjusted for vulnerable status)	Likelihood of significant impact	Comments
		Riparian vegetation retention will ensure no impacts to the temperature of the water through shade removal will occur. Water quality management including erosion and sediment controls will ensure that the risk of habitat degradation by siltation will be avoided. Details of management measures are in the EIS and will be included in a relevant subplan. The site's location, operation, intensity, duration, magnitude and geographic extent are limited and so no real or not remote risk of substantial interference with the recovery of the species.

Burnie burrowing crayfish

Significant Impact Criteria ²⁰ (statements adjusted for vulnerable status)	Likelihood of significant impact	Context
Lead to a long-term decrease in the size of an important population	Unlikely	Water quality management including erosion and sediment controls and riverbank protection at stream crossings and suitable habitat adjacent as set out in the management measures in Appendix 1 will avoid or minimise impacts. The limited intensity, duration, magnitude, and geographic extent of potentially impacted habitat is so small that there is no real or not remote chance of causing an impact that is important, notable or of consequence to the size of the population in the long term (IUCN - 3 generations – 90 years).
Reduce the area of occupancy of the important population	Unlikely	Habitat protection and avoidance as well as erosion and sediment controls will ensure that the risk of the loss of BBC from the habitat is avoided and hence the AO of the population will not be reduced. There is no real or not remote chance that water quality management will fail once effectiveness and compliance requirements are met. The impact avoidance strategy and compliance regime will be detailed in relevant subplans. The limited intensity, duration, magnitude, and geographic extent is so small that there is no real or not remote chance of causing an impact that is important, notable or of consequence to the AO .
Fragment an existing population into two or more important populations	Unlikely	The proposal does not fragment the habitat in the region. Habitat and water quality management of the site will ensure that the risk of any isolation of the population is avoided. Details of management measures are in the EIS and listed in Appendix 1 The site's location, operation, intensity, duration, magnitude and geographic extent are so limited and isolated from the population that there is no real or not remote risk of fragmentation.

²⁰ Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

Significant Impact Criteria ²⁰ (statements adjusted for vulnerable status)	Likelihood of significant impact	Context
Adversely affect habitat critical to the survival of a species	Unlikely	For the BBC critical habitat is associated with slow drainage in riparian areas but also roadsides and pastures. This indicates that the drainage regime and soils are more important than the vegetation type. The management measures outlined in Table 6.6 of the EIS and listed in Appendix one above include preclearance survey, avoidance and minimisation of habitat disturbance. The limited intensity, duration, magnitude, and geographic extent are so small that there is no real or not remote chance of causing an impact that is important, notable or of consequence to critical habitat.
Disrupt the breeding cycle of an important population	Unlikely	The implementation of mitigation measures at stream crossings is unlikely to disrupt the breeding cycle of an important population because the management measures are designed to ensure this is unlikely and include; identification, exclusion zones and erosion and sediment controls, The limited intensity, duration, magnitude, and geographic extent are so restricted that there is no real or not remote chance of causing an impact that is important, notable or of consequence to the breeding cycle of the population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely	Water quality management including erosion and sediment controls, drainage protection and exclusion zones will ensure that the residual risk of any impact to suitable habitat will be avoided. Details of management measures are set out in the EIS and are listed in Appendix 1 and will be included in relevant subplans. Due to the limited scale, short duration, low intensity there is no real or not remote residual risk that the habitat disturbance will cause an impact that is important, notable or of consequence to the extent that the species is likely to decline.
Result in invasive species that are harmful to the	Unlikely	There are no known threats from any invasive species.

Significant Impact Criteria ²⁰ (statements adjusted for vulnerable status)	Likelihood of significant impact	Context
species becoming established in the species' habitat		
Introduce disease that may cause the species to decline	Unlikely	Water quality management of the sites will ensure that the risk of disease caused by the works is avoided. There is no real or not remote chance of causing an impact that is important, notable or of consequence .
Interfere substantially with the recovery of the species	Unlikely	All mitigative and avoidance actions support the recovery strategy The site's location, operation, intensity, duration, magnitude and geographic extent are limited and so no real or not remote risk of substantial interference with the recovery of the species.

Appendix 3. Commission Permit

TASMANIAN PLANNING COMMISSION



Major Infrastructure Project Planning Permit

Granted by Delegated Assessment Panel under the *Major Infrastructure Development Approvals Act 1999* and the *Land Use Planning and Approvals Act 1993*

MAJOR INFRASTRUCTURE PROJECT NAME	North West Transmission Upgrades Project – Palmerston to Hampshire Section
PERMIT NUMBER	MIPP-2026-01
PERMIT DATE	10 March 2026
PERMIT HOLDER	Tasmanian Networks Pty Ltd (TasNetworks)
PROJECT LAND	The land subject to this permit includes all the land on which the use and development allowed by the permit is located, as set out in the maps in Schedule 3.
THE PERMIT ALLOWS	1. Use of the project land for electricity transmission; and 2. Development of the project land for electricity transmission infrastructure associated with a 220kV double overhead transmission line comprising 341 lattice transmission towers, 50 steel monopoles, a switching station, and associated access tracks, vegetation clearance, 110kV transmission line relocation works, and road works.
THE PERMIT INCLUDES	All conditions and restrictions set out in the permit Schedule 1 – Definitions Schedule 2 – TasWater’s Submission to Planning Authority Notice Schedule 3 – Project Land

Conditions and Restrictions

General and Administrative

1. Generally in accordance with approved plans

The use and development must be undertaken generally in accordance with the approved plans as listed in the table below, except where modified by this permit.

Approved plans:

Figure	Plan	Plan date
A8.1	Hampshire Hills switching station overview	22/8/25
A8.2	Hampshire Hills switching station site plan	12/8/25
A8.3	Hampshire Hills switching station layout	11/8/25
A8.4	Hampshire Hills switching station cross sections (A-B and C-D)	11/8/25
A8.5	Hampshire Hills switching station control room layout	11/8/25
A8.6	Overhead transmission line site boundary and adjoining properties (11 maps, excluding maps 5, 6, 7, and 8)	8/11/25
A8.6	Overhead transmission line site boundary and adjoining properties (maps 5, 6, 7, 8)	19/12/25
A8.8	Overhead transmission line site plans – project infrastructure (82 maps, excluding maps 41, 42, 50, 51, 55, 60, 61, 63, 64, and 65)	8/22/25
A8.8	Overhead transmission line site plans – project infrastructure (maps 41, 42, 50, 51, 55, 60, 61, 63, 64, and 65)	19/12/25
A8.10	Overhead transmission line site plans project infrastructure and property titles (Burnie only, 9 maps excluding maps 1, 2, 3, 4, 5, and 6)	5/20/25
A8.10	Overhead transmission line site plans project infrastructure and property titles (Burnie only, maps 1, 2, 3, 4, 5, and 6)	22/12/25
A8.12	Overhead transmission line site plans – vegetation clearance requirements (82 maps, excluding maps 41, 42, 50, 51, 55, 60, 61, 63, 64, and 65)	8/8/25
A8.12	Overhead transmission line site plans – vegetation clearance requirements (maps 41, 42, 50, 51, 55, 60, 61, 63, 64, and 65)	19/12/25
5.3	Access tracks (82 maps, excluding maps 41, 42, 50, 51, 55, 60, 61, 63, 64, and 65)	8/4/25

5.3	Access tracks (41, 42, 50, 51, 55, 60, 61, 63, 64, and 65)	18/12/25
6.4	Relocated 110kV overhead transmission line site plans (5 maps)	8/4/25
6.18	Access tracks and potential watercourse crossings (10 maps, excluding maps 6, 7, 8, and 9)	17/3/25
6.18	Access tracks and potential watercourse crossings (maps 6, 7, 8, and 9)	5/1/26
N/A	Part E – Appendix A – Vegetation Clearance (49 pages, NWTD-EP-DA-501)	August 2025

2. Detailed development plans

Prior to the commencement of works, detailed development plans of the use and development must be submitted to and endorsed by the Commission.

The detailed development plans must be generally in accordance with all the approved plans in condition 1 but modified to reflect any changes required or approved by the permit.

The detailed development plans must show the following information at a minimum:

1. title boundaries
2. location and height of each individual tower and pole, including the changes required by conditions **4** and **5**
3. individual tower and pole numbers
4. location of the relocated 110kV transmission line infrastructure
5. location of existing and new access tracks, including access points and watercourse crossings
6. location of the easement
7. location of the notified corridor
8. location of the Hampshire Hills switching station
9. location of towers or poles to be removed
10. extent and nature of native vegetation clearance
11. staging.

The detailed development plans must be dimensioned or scalable and presented at a scale appropriate to the information being presented.

Endorsed detailed development plans form part of the permit and must be complied with.

3. Staging

The use and development may be undertaken in stages as shown on the endorsed detailed development plans, or in accordance with an updated staging plan

submitted to and endorsed by the Commission prior to the commencement of any works in the updated staging plan.

Any corresponding obligation arising under this permit (including the preparation and approval of plans, protocols and strategies) may be similarly completed in stages, but only insofar as those obligations are relevant to the use and development of the electricity transmission infrastructure that are proposed to be used or developed in a stage.

Where staging of the use and development is proposed, the staging plan to be endorsed must identify all relevant obligations under this permit and describe how these will be managed for each stage, having regard to the nature and timing of construction activities and the operation of the use.

The staging plan must be kept updated, maintained for the duration of the development, and made publicly available in accordance with condition **60.5**.

4. Towers to poles

The following 25 lattice towers on the Sheffield to Burnie section of the transmission line are approved to be 50 steel monopoles, in accordance with the approved plans (Figure A8.8) in condition 1.

1. T6, T7, T8 and T9
2. T43, T44, T45 and T46
3. T62a and T63a
4. T86, T87, T88, T89, T90, T91, T92, T93, T94, T95, T96, T97, T98, T99, and T100.

5. Height – Heybridge Spur East towers 3 and 4

Towers 3 and 4 on the Heybridge Spur East must be 59m high, unless otherwise approved in writing by the Commission.

6. Micrositing – towers and poles

No further approval is required for the micrositing of towers and poles from that shown on the approved plans (Figure A8.8) in condition 1.

Towers and poles can be micrositied a maximum of 50m laterally, and without restriction linearly, subject to all the following being satisfied:

1. pole, tower, and easement must remain within the notified corridor
2. pole, tower, and easement must not be located on another title (unless in the same ownership)
3. the number of poles or towers on the title (or titles in the same ownership) must not increase
4. pole, tower, and easement must be no closer to any existing dwelling, unless:
 - i. the easement maintains a minimum 100m setback from a dwelling on land subject to the easement and zoned Rural, Agriculture, Landscape

- Conservation, or Rural Living under the Tasmanian Planning Scheme applying in the municipal area
- ii. the easement maintains a minimum 20m setback from a dwelling on land subject to the easement and zoned Rural Living, Low Density Residential, or General Residential under the Tasmanian Planning Scheme applying in the municipal area
 - iii. a tower or pole maintains a minimum 400m setback from a dwelling on land not subject to the easement and zoned Rural, Agriculture, Landscape Conservation, or Rural Living under the Tasmanian Planning Scheme applying in the municipal area
5. no additional native vegetation clearance is required
 6. no additional access points or watercourse crossings are required
 7. there is no increase to the mapped category of landslide risk as set out in the Landslide Code in the Tasmanian Planning Scheme
 8. there are no additional impacts on:
 - i. Ecologically Sensitive Zones and Ecological Protection Zones
 - ii. threatened flora, fauna, including their significant habitat, and native vegetation communities
 - iii. watercourses including streamside reserves
 - iv. registered Aboriginal relic sites
 - v. karst mapped on LISTmap
 - vi. agricultural land in a higher mapped land capability class in accordance with the *Land Capability Handbook, Guidelines for the Classification of Agricultural Land in Tasmania, 2nd edition, 1999, Grose, C. J., Department of Primary Industries, Water and Environment.*

7. Micrositing – access tracks

No further approval is required for the micrositing of access tracks from that shown on the approved plans (Figure 5.3) in condition 1.

Access tracks can be microsit 50m in any direction, subject to all the following being satisfied:

1. the access track must be no closer to any existing dwelling on another title in separate ownership, unless a minimum 400m setback is maintained
2. the access track must not be located (wholly or partially) on another title (unless in the same ownership)
3. access points must comply with Australian Standard AS 2890.1:2004
4. no additional native vegetation clearance is required
5. no additional access points or watercourse crossings are required
6. there is no increase to the mapped category of landslide risk as set out in the Landslide Code in the Tasmanian Planning Scheme
7. there are no additional impacts on:
 - i. Ecologically Sensitive Zones and Ecological Protection Zones

- ii. threatened flora, fauna, including their significant habitat, and native vegetation communities
- iii. watercourses including streamside reserves
- iv. registered Aboriginal relic sites
- v. karst mapped on LISTmap
- vi. agricultural land in a higher mapped land capability class in accordance with the *Land Capability Handbook, Guidelines for the Classification of Agricultural Land in Tasmania, 2nd edition, 1999, Grose, C. J., Department of Primary Industries, Water and Environment.*

8. Height – minor variation

No further approval is required for minor variations to the height of the towers and poles from that shown on the approved plans (Figure A8.8) in condition 1, subject to all the following being satisfied:

- 1. increases in height must be no more than:
 - i. 3m for towers/poles with an approved height between 30m and 40m
 - ii. 4m for towers/poles with an approved height between 41m and 50m
 - iii. 5m for towers/poles with an approved height between 51m and 60m
- 2. increases in height must not result in exceeding a maximum tower/pole height of:
 - i. 59m between Palmerston and Sheffield
 - ii. 60m between Sheffield and Burnie
 - iii. 53m on the Heybridge Spurs
 - iv. 59m between Burnie and Hampshire Hills
- 3. variation to the height of a tower or pole must not result in the easement associated with the transmission line extending beyond the notified corridor
- 4. variation to the height of a tower or pole must not result in the easement associated with the transmission line extending onto another title (unless in the same ownership)
- 5. no additional native vegetation clearance is required
- 6. there are no additional impacts on:
 - i. Ecologically Sensitive Zones and Ecological Protection Zones
 - ii. threatened flora, fauna, including their significant habitat, and native vegetation communities
 - iii. watercourses including streamside reserves
 - iv. registered Aboriginal relic sites
 - v. existing use of land
 - vi. agricultural land in a higher mapped land capability class in accordance with the *Land Capability Handbook, Guidelines for the Classification of Agricultural Land in Tasmania, 2nd edition, 1999, Grose, C. J., Department of Primary Industries, Water and Environment.*

9. Secondary consent

Changes to the development that exceed that allowed by the endorsed detailed development plans in condition **2**, micrositing conditions **6** and **7**, and height – minor variation condition **8** may be approved by the Commission.

Consent for the changes must be sought and obtained from the Commission prior to the commencement of works for the changes.

The request for consent must be accompanied by relevant supporting documentation prepared by suitably qualified persons demonstrating that:

1. the changes do not cause an increased detriment to any person
2. the changes do not result in the easement extending beyond the notified corridor
3. the changes further the *Land Use Planning and Approvals Act 1993* Schedule 1 objectives
4. any changes which impact on the matters listed below (i.-viii.) do not result in a material adverse change to the overall effect of the approved use and development:
 - i. residential amenity
 - ii. agricultural land
 - iii. existing use of land
 - iv. aboriginal cultural heritage
 - v. threatened flora, fauna, including their significant habitat, and native vegetation communities
 - vi. watercourses including streamside reserves
 - vii. karst mapped on LISTmap.

10. Pre-construction works

For the purposes of conditions in this permit, the carrying out of pre-construction works is not commencement of works.

Pre-construction work means:

1. topographical or feature survey work including the installation of markers, underground service location, geotechnical investigation and soil sampling and testing
2. survey of existing structures and roads
3. the establishment of temporary facilities to support construction including site offices and testing rigs that do not require removal of native vegetation
4. the establishment of protected areas where specific types of works are excluded
5. installation of mitigation measures for sediment and erosion control
6. installation of temporary fences, signs and hoardings.

11. TasWater

The use and development must comply with the requirements of TasWater as detailed in the Submission to Planning Authority Notice, Reference number TWDA 2025/00554-BCC dated 03/06/2025 as set out in Schedule 2 to the permit.

Biodiversity and Natural Values

12. Soil and water management plan

Prior to the commencement of works, a soil and water management plan for sediment and erosion control must be submitted to and approved by the Commission.

The plan must be consistent with the provisions of the *Erosion and Sediment Control: The Fundamentals for Development in Tasmania* (TEER & DEP, 2023) and sections D1 and D2 of the Forest Practices Code 2020.

At a minimum, the plan must specify measures to:

1. minimise erosion
2. control sediment, including to karst features and springs
3. manage stormwater runoff that contains contaminants
4. manage disposal of surface and groundwater
5. minimise dust emissions
6. manage stockpiles and disposal of excavated material
7. minimise impacts on watercourses including streamside reserves
8. manage rehabilitation works.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

13. Dust management plan

Prior to the commencement of works, a dust management plan for potential dust emissions to sensitive receptors including houses, schools, kindergartens, medical facilities, native vegetation and crops, must be submitted to and approved by the Commission.

At a minimum, the plan must specify management measures for:

1. contaminated and potentially contaminated soils
2. the storage of materials susceptible to dust in a way that minimises dust to mobilise
3. removal of waste materials and cleaning up any spills of materials
4. dust suppression.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

14. Karst and springs management plan

Prior to the commencement of works, a karst and springs management plan must be submitted to and approved by the Commission.

At a minimum, the plan must:

1. require pre-construction geotechnical investigations by a suitably qualified karst expert to identify limestone and subterranean karst features in karst areas crossed by the project including the mapped Liffey karst area on LISTmap
2. require works to avoid any cavities detected
3. specify machinery not to be operated or access tracks constructed within a 20m buffer of karst features
4. specify specific management measures to minimise impact on karst features consistent with the Forest Practices Code 2020.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

15. Groundwater and dewatering management plan

Prior to commencement of works, a groundwater and dewatering management plan must be submitted to and approved by the Commission.

At a minimum, the plan must:

1. set groundwater exclusion zones
2. require site specific hydrological investigations for works within exclusion zones
3. specify management measures for works extending below the water table in acid sulphate soils
4. specify management measures for dewatering.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

16. Temporary works rehabilitation strategy

Temporary work sites (winch, drum and break sites, tower assembly site and associated temporary accesses) must be rehabilitated within 12 months of ceasing to be used.

Prior to commencement of the temporary works, a temporary works rehabilitation strategy must be submitted to and approved by the Commission.

At a minimum the strategy must include:

1. details for the storage and reuse of weed free 'slash-and-chip' materials
2. requirements for the application of erosion and sedimentation control measures until rehabilitation is complete
3. requirements for weed, disease and hygiene management measures to be applied during rehabilitation
4. a list of flora species to be used at rehabilitation sites
5. a requirement for revegetation using native vegetation communities including local provenance flora
6. an inspection and maintenance schedule for rehabilitation sites

7. details for the reporting of rehabilitation outcomes.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

17. Weed, disease and hygiene plan

Prior to the commencement of works, a plan to manage the introduction, spread, and establishment of weed and diseases for both construction and operation, must be submitted to and approved by the Commission.

The plan must:

1. be consistent with the *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania* (Department of Primary Industries, Parks, Water and Environment 2015)
2. have regard to standard *Phytophthora* hygiene measures in the Forest Practices Authority Flora Technical Note No.8 management of *Phytophthora cinnamomi* in production forest (2024)
3. have regard to the control of Chytrid fungus reflecting the *Environmental and Biodiversity Protection Act 1999* Threat Abatement Plan for Infection of Amphibians with Chytrid Fungus Resulting in Chytridiomycosis (Commonwealth of Australia 2016), and the Tasmanian Frog Hygiene Guidelines (NRE Tas).

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

18. Biosecurity plan

Prior to the commencement of works, a biosecurity plan to identify, prevent, and manage biosecurity risks for both construction and operation, must be submitted to and approved by the Commission.

The plan must:

1. identify biosecurity risks
2. specify procedures for managing biosecurity risks
3. be consistent with the protocols in the *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania* (Department of Primary Industries, Parks, Water and Environment (2015))
4. be consistent with the protocols in the *Tasmanian Washdown Guidelines for Weed and Disease Control - Machinery, Vehicles and Equipment, Edition 1* (Department of Primary Industries, Water and Environment, 2004)
5. be consistent with the protocols in the *Keeping it clean - A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens* (Department of Primary Industries, Parks, Water and Environment (2010)).

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

19. Vegetation management plan

Prior to the commencement of native vegetation removal, a vegetation management plan prepared by a suitably qualified person must be submitted to and approved by the Commission.

The vegetation management plan must include the results of all surveys including those that confirm the extent of state and *Environmental Protection and Biodiversity Conservation Act 1999* listed vegetation communities in the vicinity of the development, and the clearance limits specified in conditions **20**, **21**, and **22**.

The plan must specify procedures for:

1. ensuring vegetation clearance, including felling and removal of trees and vegetation in streamside reserves, is in accordance with the Forest Practices Code 2020 and associated procedures
2. ensuring that native vegetation that has not been approved for removal under this permit will not be adversely affected by construction
3. identifying and removing hazard trees
4. ensuring when clearing sites to ground cover that:
 - i. existing hollow bearing logs in native vegetation must be retained
 - ii. in dry sclerophyll communities and lowland grass complexes, fallen timber and branches in potential habitat for the Green-lined Ground Beetle must be retained
 - iii. in eucalypt forest and plantations, piles of woody debris including plantation windrows must be retained where suitable to act as denning shelter and foraging habitat for Tasmanian Devils, Eastern Quolls and Spotted-tailed Quolls
5. delineating and marking on the ground the location of the Ecologically Sensitive Zones
6. ensuring that for works in the vicinity of Ecologically Sensitive Zones:
 - i. impacts to EPBC Act listed communities are limited and otherwise limited to pruning
 - ii. access tracks are designed and constructed to avoid clearance of all state and EPBC Act listed communities
 - iii. native vegetation clearance associated with the construction of transmission line infrastructure and for the protection of infrastructure and public safety for the operation of the powerline is the minimum extent necessary
7. ensuring that works are consistent with the practices specified for Ecological Protection Zones

8. rehabilitating and revegetating native vegetation in areas where native vegetation has been cleared to ground level, to enable temporary construction activities
9. managing the retention of native vegetation over the operational period of the use in areas where permanent vegetation removal to ground cover, mid-storey or no clearing has been permitted as necessary to protect operating infrastructure and public safety.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

20. Native vegetation clearance limit

The maximum permitted area of native vegetation clearance approved by this permit is 144ha, generally in accordance with the approved plans (Figure A8.12 and Part E – Appendix A) in condition 1.

21. Threatened native vegetation clearance limits

The following maximum permitted areas of clearing and conversion of threatened vegetation communities are approved by this permit and must be generally in accordance with the approved plans (Figure A8.12 and Part E – Appendix A) in condition 1:

1. *Melaleuca ericifolia* swamp forest: not more than 0.07ha
2. *Eucalyptus amygdalina* forest and woodland on Cainozoic deposits: not more than 0.01ha
3. *Eucalyptus viminalis* wet forest: not more than 0.14ha
4. *Eucalyptus ovata* forest and woodland: not more than 0.09ha.

22. Habitat clearance limits

The following maximum permitted areas of native habitat modification apply under this permit and must be generally in accordance with the approved plans (Figure A8.12 and Part E – Appendix A) in condition 1:

1. Tasmanian Devil and Spotted-tailed Quoll denning habitat – clear and convert to ground level: not more than 37.3ha
2. Eastern Quoll denning habitat – clear to ground cover: not more than 26.1ha
3. Tasmanian Devil foraging habitat – clear and convert to ground level: not more than 71.4ha
4. Spotted-tailed Quoll foraging habitat – clear to ground cover: not more than 71.5ha
5. Eastern Quoll foraging habitat – clear to ground cover: not more than 47.4ha
6. native forest – modify by clearing to mid-storey: not more than 30ha.

23. Threatened flora

23.1 Threatened flora (orchids) survey

A survey must be undertaken prior to commencement of clearance to ground level or ground cover in potential habitat for the following species:

1. *Caladenia pallida*
2. *Caladenia tonellii*
3. *Prasophyllum crebriflorum*
4. *Pterostylis ziegeleri*

The survey must be undertaken when each relevant species has been observed to flower at locations where presence of the species is already known.

23.2 Threatened flora (orchids) clearing to ground level

Clearing works to ground level must not occur within 5m of the following species, except as provided for in condition **23.3**:

1. *Caladenia pallida*
2. *Caladenia tonellii*
3. *Prasophyllum crebriflorum*
4. *Pterostylis ziegeleri*

23.3 Threatened flora (orchids) clearing to ground cover

Clearing works to ground cover may occur within 5m of the following species:

1. *Caladenia pallida*
2. *Caladenia tonellii*
3. *Prasophyllum crebriflorum*
4. *Pterostylis ziegeleri*

The clearing works must:

- a. be undertaken by hand
- b. all clearing debris and mulch must be removed.

23.4 Threatened flora (native watercress) survey

Prior to the commencement of clearance to ground level at any new watercourse crossing in the Burnie to Hampshire section of the transmission line, a survey for the native wintercress (*Barbarea australis*) must be undertaken.

23.5 Threatened flora (hemphbush and native wintercress) clearing works

Clearing works to ground level or ground cover must not occur within 5m of the fragrant hemphbush (*Gynatrix pulchella*) or the native wintercress (*Barbarea australis*).

24. Swift parrot

A survey of *Eucalyptus ovata* forest and *globulus* plantations must be undertaken by a suitably qualified person immediately prior to clearance for the presence of Swift Parrots and their breeding habitat.

No clearing of *Eucalyptus ovata* forest and *globulus* plantations must occur while Swift Parrots are present.

25. Active raptor nests

There must be no operation of machinery within the following:

1. 100m of an active Grey Goshawk nest
2. 150m of an active Tasmanian Masked Owl nest
3. 500m or 1km if in line-of-sight of an active Tasmanian Wedge-tailed Eagle or White Bellied Sea Eagle nest during the management constraint period, unless carried out in accordance with an approach prepared by a suitably qualified raptor specialist. The management constraint period is 1 July to 31 January inclusive, or 1 July to 28 February inclusive in late season years. Line-of-sight means the areas where a breeding eagle could see when at the nest.

26. Known raptor nests

If a Grey Goshawk, Tasmanian Masked Owl, Tasmanian Wedge-tailed Eagle and White Bellied Sea Eagle nest (irrespective of activity status) occurs within 500m of construction activity, the works must be carried out in accordance with an approach prepared by a suitably qualified raptor specialist.

27. Raptor nest management plan

Prior to the commencement of works, a raptor nest management plan must be submitted to and approved by the Commission.

The plan must have regard to the Forest Practices Authority Fauna Technical Note 1 (2024) and Natural Resources and Environment Tasmania (NRE Tas) advice on Tasmanian Masked Owl nest tree monitoring and must include:

1. details of the prohibition on using machinery within certain distances of active raptor nests as set out in condition **25**
2. results of Tasmanian Wedge-tailed Eagle and White Bellied Sea Eagle nest searches in potential habitat
3. results of a Grey Goshawk nest search in potential habitat, within 12 months before construction commences
4. results of additional acoustic surveys of potential habitat of the Tasmanian Masked Owl completed no more than 6 months prior to construction works and undertaken in spring
5. assessment of any habitat within 150m of areas to be cleared or modified for hollows with an entry diameter of 15cm or greater

6. details of proposed Tasmanian Wedge-tailed Eagle, White Bellied Sea Eagle, Tasmanian Masked Owl and Grey Goshawk nest monitoring and activity checks, and exclusion areas, developed in consultation with the Department of Natural Resources and Environment Tasmania
7. a requirement for annual nest searches for Tasmanian Wedge-tailed Eagle and White Bellied Sea Eagle in potential habitat within 1km of the site, including any temporary helicopter take-off and landing areas, until the completion of construction
8. a requirement for annual Tasmanian Wedge-tailed Eagle and White Bellied Sea Eagle nest monitoring of known nests within 1km of the site
9. actions to be implemented to prevent works within exclusion areas of listed raptor nests
10. actions to be implemented to mitigate the potential for disruption from noise and vibration on listed raptor nests where construction is undertaken outside the line of sight between 500m and 1km of an active nest.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

28. Dens

There must be no works or operation of machinery within 50m of an active devil or quoll den.

A survey for Tasmanian Devil and Quoll dens must be undertaken not more than 12 months prior to commencement of the works or operation of the machinery, consistent with the Survey Guidelines and Management Advice for Development Proposals that may impact the Tasmanian Devil (*Sarcophilus harrisii*) (NRE Tas, 2023).

The survey must include all potential denning habitat (including wombat burrows) cleared to ground level and ground cover, including winch, drum and break sites, new access tracks, and tower assembly areas.

29. Den management plan

Prior to the commencement of works, a den management plan must be submitted to and approved by the Commission.

The plan must include:

1. reference to restriction on clearing within 50m of an active devil or quoll den as set out in condition **28**
2. details of the area of construction
3. a requirement to install exclusion zones around active dens
4. a requirement for a pre-clearance check of known dens
5. a requirement for den monitoring and assessment of potentially active dens
6. a den decommissioning protocol

7. management details to be implemented for unanticipated discovery of dens
8. an offset trigger where an existing devil den is destroyed and associated requirements for offset implementation.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

30. Roadkill management plan

Prior to the commencement of works, a roadkill management plan for devil, quoll, listed raptor species and Eastern-barred Bandicoot (EBB), on construction transport routes must be submitted to and approved by the Commission.

The plan is only required for those construction transport routes where construction traffic causes an increase in vehicle movements of 10% or more and is not required for urban areas or category 1 (Trunk) and 2 (Regional Freight) roads.

To inform the plan, a baseline survey must be undertaken for any construction transport routes used between sunset and sunrise where construction traffic causes an increase in vehicle movements of 10% or more, and must include:

- a. roadkill monitoring at least once a week during the monitoring period
- b. a monitoring period of 3 months in the same season as the use of the construction transport route, or not less than 3 months in summer and 3 months in winter
- c. data from sources that provide for an equivalent level of survey coverage.

The plan must include:

1. analysis of predicted unmitigated and post mitigation roadkill levels
2. limitations for vehicle movements between sunset and sunrise
3. identification of high-risk sections of any construction transport routes for roadkill
4. roadkill mitigation actions (permanent and temporary) to be implemented for any high-risk sections of a construction transport route
5. mitigation actions to be implemented on other sections of a construction transport route, including, but not limited to signage, rumble strips, and operational vehicle speed reductions
6. a requirement for at least weekly monitoring of roadkill numbers and species during the use of construction transport routes
7. a requirement for the regular removal and disposal of carcasses from roads and verges on construction transport routes, consistent with safety requirements of the road authority
8. a requirement for reporting of devil, quoll, listed raptor and EBB roadkill during the use of construction transport routes
9. a requirement and process for reporting of any construction vehicle collisions with devils, quolls or Wedge-tailed Eagles

10. a trigger for the audit of the implementation of the plan and review of mitigation measures where a construction vehicle collides with a devil, quoll or Wedge-tailed Eagle
11. identification of the adaptive mitigation measures to be implemented considering the efficacy of the roadkill management plan.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

31. Watercourse crossing management plan

Prior to the commencement of works, a watercourse crossing management plan for all new watercourse crossings and upgrades to existing watercourse crossings must be submitted to and approved by the Commission.

The plan must be consistent with:

- a. clause D2.1 of the Forest Practices Code 2020 and associated planning tools including the Forest Practices Authority Fauna Technical Note No. 15 (2014)
- b. the environmental design requirements for bridges, culverts, causeways and fords in *Guideline 5: Siting and Design Stream Crossings, of the Waterways and Wetlands Works Manual – Environmental Best Practice Guidelines when Undertaking Works on Waterways and Wetlands in Tasmania* (Department of Primary Industries Water and Environment, 2003).

The plan must:

1. stipulate no removal of vegetation in streamside reserves, instream snags, and wood outside the crossing alignment
2. stipulate that where a Giant Freshwater Crayfish is within 10m of a crossing alignment, no watercourse crossings must be constructed, in accordance with condition **32**
3. stipulate that within 10m of a chimney/burrow of a Burnie Burrowing Crayfish there must be no works that disturb the soil or operation of machinery, unless for minor upgrading of existing tracks or in accordance with a Burnie Burrowing Crayfish impact management plan, in accordance with conditions **33** and **34**
4. stipulate that works at watercourse crossings and in streamside reserves along class 1-3 streams should be avoided where there are known platypus burrows during December to April
5. clearly identify new watercourse crossings on the tributaries of the Cam River, the Dasher River, Claytons Rivulet and Little Claytons Rivulet where instream disturbance could impact on threatened freshwater snails
6. require the first two access track watercourse crossings and headwater vegetation clearance operations to be independently overseen by a certified Forest Practices Officer trained in compliance and auditing and audited for the effectiveness of sediment minimisation actions 3 months after the works

7. require improvements identified in the audit to be employed at subsequent watercourse crossings and headwater vegetation clearances
8. require 10% of all new watercourse crossings in native vegetation to be audited until completion of the development.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

32. Giant Freshwater Crayfish

Where a Giant Freshwater Crayfish is within 10m of crossing alignment, no watercourse crossings must be constructed.

A survey for Giant Freshwater Crayfish must be undertaken prior to commencement of watercourse crossing construction works.

33. Burnie Burrowing Crayfish

Within 10m of a chimney/burrow of a Burnie Burrowing Crayfish there must be no works that disturb the soil or the operation of machinery, unless for:

1. minor upgrading of existing tracks, including re-shaping/grading, re-gravelling, clearing existing batters and drains, managing adjoining native vegetation
2. works approved under a Burnie Burrowing Crayfish Impact Management Plan (under condition **34**).

A survey for Burnie Burrowing Crayfish burrows/chimneys must be undertaken prior to the commencement of works or operation of machinery in known or potential habitat.

34. Burnie Burrowing Crayfish impact management plan

Prior to the commencement of works (excluding minor upgrading of access tracks), a plan for any works or operation of machinery within 10m of a Burnie Burrowing Crayfish burrow/chimney must be submitted to and approved by the Commission.

The plan must be consistent with the Burnie Burrowing Crayfish (*Engaeus yabbimunna*): Species Management Profile for Tasmania's Threatened Species Link, (NRE Tas, 2026) and must include:

1. identification of burrows/chimneys in a survey conducted in accordance with condition **33**
2. the extent of proposed works/operations and exclusion areas
3. the extent of works that may impact on hydrology/drainage patterns, including installation or upgrade of culverts and drains
4. the measures to be implemented to avoid compaction and dewatering of burrows
5. a requirement for ongoing monitoring.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

35. Fauna escape

Ramps must be installed on open excavations to allow fauna to escape. Works at open excavations must not commence while trapped fauna is present.

Construction Methods and Management

36. Construction hours

Construction activities must not occur outside of the following times:

Day	Permitted work hours
Monday – Friday	7am to 6pm
Saturday	8am to 6pm
Sunday and Public Holidays	10am to 6pm

Construction activities for unavoidable works only may occur outside of the above times, subject to written notification being submitted to the Commission prior to the unavoidable works being undertaken.

Notification to the Commission must be:

1. in writing a minimum 48 hours prior to the unavoidable works taking place
2. accompanied by written evidence demonstrating that relevant authorities and adjoining land owners and occupiers have been consulted in relation to the unavoidable works to take place.

Unavoidable works are considered to include (but not necessarily limited to) the following:

- a. works that need to be undertaken without a break in the program, such as concrete pouring
- b. delivery of oversized plant or equipment where travel times are specified by road authorities
- c. time sensitive maintenance or repair of public infrastructure to reduce impacts on customers
- d. commissioning, cutovers and testing activities which are typically done outside peak demand
- e. emergency works required due to unforeseen circumstances.

37. Siting of temporary works

Temporary worksites, including access, must be sited and constructed in existing disturbed areas where available, including existing tracks and clearings.

38. Decommissioning and rehabilitation of existing 220kV Overhead Transmission Line

The decommissioning of the existing 220kV overhead transmission lines (Palmerston to Sheffield section and Sheffield to Burnie section) must be commenced within 12 months, and completed within 24 months, of the

commissioning of the relevant section of the new 220kV double overhead transmission line, unless otherwise approved in writing by the Commission.

The decommissioning must include the following:

1. the removal of all above ground infrastructure
2. removal to a depth of 1m of all below ground infrastructure
3. rehabilitating land where tower footprints have been removed, by backfilling, contouring, laying of topsoil, and reseeding.

TasNetworks must provide written confirmation to the Commission of the following:

- a. the date of the commissioning of the relevant section of the new 220kV double overhead transmission line, within 21 days of this occurring
- b. the date each section of the existing 220kV overhead transmission line has been decommissioned in accordance with this condition, within 21 days of that occurring.

39. Visual impact – external finishes

The external finishes of the electricity infrastructure must be in accordance with the following:

1. all towers and poles must be constructed of dull galvanising material, with a matte finish
2. non-specular conductors must be used throughout the transmission line
3. insulators must use non-reflective coatings throughout the transmission line
4. brown glass insulators must be used on towers 117-139 in the Palmerston to Sheffield section of the transmission line, and towers 14-29 Burnie to Hampshire Hills section of the transmission line
5. clear glass insulators must be used on all other towers and poles.

40. Visual impact – access track materials

For towers 52-64 and 92-100 in the Sheffield to Burnie section of the transmission line, and towers 1-13 in the Burnie to Hampshire Hills section of the transmission line, access tracks must be constructed using dark coloured road construction materials if they involve cut and fill to traverse hillslopes or are on light coloured substrates.

Prior to completion of the works in these sections of the transmission line, disturbed surfaces on either side of the access tracks must be revegetated equivalent to pre-disturbance standard.

41. Stormwater management for Hampshire Hills switching station

Stormwater from the switching station must be managed in accordance with the approved plan (Figure A8.2 Hampshire Hills Switching Station Site Plan) and section 8.1.1 of Part E Appendix I Surface Water Assessment (Revision 2 dated 17 March 2025).

The approved stormwater management plan and section 8.1.1 of Part E Appendix I Surface Water Assessment (Revision 2 dated 17 March 2025) must form part of the Construction Environmental Management Plan.

42. Contaminated land and acid sulphate soils

Construction works must be undertaken in accordance with the section 8.2 of Part E Appendix Q: Preliminary Site Investigation (Pitt and Sherry, 7 March 2025). This includes:

1. establishing exclusion zones around silica burial sites
2. implementation of an Acid Sulphate Soils management plan
3. undertaking soil testing
4. assessment and management of potentially contaminated soils and materials in accordance with Environment Protection Authority Tasmania guidelines
5. implementation of an unexpected contaminant finds protocol.

43. Direct drilling

Drilling activities (including for geotechnical investigations) must use non-oil-based drilling fluid and non-toxic additive, and in accordance with Minimum construction requirements for water bores in Australia (National Uniform Drillers Licensing Committee, 4th edition, 2020).

44. Use of rodenticide

Anticoagulant rodenticide baits must not be used during construction and operation.

45. Access track gates

New access tracks providing direct access to a class 1, 2, or 3 stream must be gated.

46. Access track construction

Permanent access tracks must be designed and constructed in accordance with the class 4 road standard under the Forest Practices Code 2020, and considering relevant matters, including geotechnical and landslip hazards.

47. Traffic management plan

Prior to the commencement of works, a traffic management plan (TMP) must be submitted to and approved by the Commission that:

1. identifies the routes/bridges, corresponding vehicle crossings/accesses and expected traffic volumes that different classes of vehicles are to use for the construction and operational stages of the project
2. includes a pre-construction condition survey of public roads that may be used in the construction stage of the project including details of the suitability, design, condition and construction standard of the relevant public roads

3. assesses risks and mitigation actions based on the methodology for road safety and efficiency risks in Remaining NWTD, Traffic Risk Assessment Pitt & Sherry, March 2025
4. outlines the mitigation actions that are to be implemented for different stages of construction and operation to achieve an acceptable level of residual risk
5. includes the scope of the expertise, duties and role of the nominated Road Quality Auditor engaged under condition **50**, including inspection frequency and reporting requirements
6. includes a program to rehabilitate existing public roads within agreed timeframes to the condition identified in the pre-construction surveys or to the upgraded condition required by the transport strategy in condition **49**, whichever is relevant.

The plan must be implemented once approved, and form part of the Construction Environmental Management Plan.

48. Sight distances

The TMP must include a section (or equivalent) that:

1. reviews the proposed location of all vehicle crossings/accesses described as having a sight distance in at least one direction that is less than the sight distance required for domestic property access driveways in AS 2890.1:2004
2. identifies suitable vehicle crossings/accesses to public roads to be used during the construction stage (non-domestic access driveways), and to be used during the operating stage (domestic access driveways)
3. includes an analysis of:
 - i. vehicle crossings/accesses location and design options to improve sight distances
 - ii. relevant matters related to alternative vehicle crossings/accesses options, including biodiversity, heritage, land management, amenity, as well as road safety and efficiency matters.

49. Transport strategy

Prior to the commencement of works to public roads being undertaken, a transport strategy for works to public roads (transport strategy) must be submitted to and approved by the Commission.

The transport strategy must be prepared in consultation with the relevant road authorities, and must detail those works to public roads necessary to take residual risk levels to a lower and acceptable level, including works associated with:

1. new or upgraded vehicle crossings/accesses to public roads,
2. road shoulder widening, pavement widening or
3. other works to public roads.

The transport strategy must:

- a. identify the type and location of works to public roads (temporary or permanent works to roads, intersection and vehicle crossings/accesses)
- b. ensure works to public roads are designed consistent with Local Government Association of Tasmania Standard Drawings or as agreed to by the relevant road authority
- c. ensure works to public roads are carried out by a suitably qualified and experienced person
- d. include a schedule for commencement and completion of the works to public roads.

The strategy must be implemented once approved, and form part of the Construction Environmental Management Plan.

The works to public roads in the transport strategy must be implemented to the satisfaction of the relevant road authority, unless otherwise approved in writing by the Commission.

50. Road quality auditor

Prior to the commencement of works to public roads being undertaken, an independent Road Quality Auditor must be engaged to fulfil the requirements of the TMP.

Prior to approval of the TMP, details of a suitably qualified engineer who will undertake the duties of the Road Quality Auditor identified in the TMP must be submitted to and approved by the Commission.

Prior to approval of the TMP, the terms of reference for the Road Quality Auditor are to be developed in consultation with local road authorities. The terms of reference are to include, but not limited to, the following:

1. a program of regular inspections to be carried out during the construction of the project to identify maintenance works necessary as a result of construction traffic
2. frequency of inspections
3. frequency of reporting to the proponent and relevant road authority
4. standards to which all agreed public road works are to be constructed
5. ongoing maintenance and repair regime during construction of the project.

Any works to public roads must before first use be certified by the Road Quality Auditor as satisfying the requirements of the TMP and transport strategy conditions.

51. Workforce accommodation strategy

Prior to commencement of works, a Workforce Accommodation Strategy must be submitted to and approved by the Commission.

The strategy must:

1. be prepared in consultation with the Department of State Growth, the Cradle Coast Authority, and the Northern Tasmania Development Corporation
2. outline strategies to minimise the potential adverse effects on Tasmanian residents in the northern region due to changes in rental availability and affordability arising from the development during its construction stage
3. propose measures to ensure there is sufficient accommodation for the workforce associated with the development
4. consider cumulative impacts associated with other significant development projects
5. include a program to monitor and review the effectiveness of the strategy over the life of the development, including regular monitoring and review during construction.

The strategy must be implemented once approved.

52. Farm management plan

Farm Management Plans, prepared in consultation with individual landholders must be implemented. The plans must include but not be limited to details in relation to:

1. farm layout redesigns and equipment modifications/changeovers
2. agreement on any benefits that can be derived by the landholder from project infrastructure (such as the retention of access tracks)
3. construction and maintenance scheduling to minimise disruption on farm operations and productivity.

53. Unanticipated discovery plan (Aboriginal relics)

If Aboriginal relics are discovered during works, an Unanticipated Discovery Plan must be prepared and implemented consistent with the Unanticipated Discovery Plan: Procedure for management of unanticipated discoveries of Aboriginal relics in Tasmania (NRE Tas, 2024).

All activity in the immediate area of the discovery must cease, a buffer zone established, and Aboriginal Heritage Tasmania notified within 48 hours.

Works must not recommence until advice is received from Aboriginal Heritage Tasmania and any required approvals under the *Aboriginal Heritage Act 1975* are obtained.

54. Construction environmental management plan

Prior to the commencement of works, a Construction Environmental Management Plan (CEMP) must be submitted to and approved by the Commission.

The CEMP must include at a minimum all plans, protocols, and strategies specified in conditions **54.1** to **54.6**.

The CEMP must be implemented once approved.

54.1 Training and awareness protocol

The CEMP must include a training and awareness protocol to ensure anyone undertaking the works subject to the CEMP is appropriately trained, competent, and inducted, to ensure the requirements of the CEMP are met.

At a minimum, the training and awareness protocol must:

1. specify requirements for training, qualifications, experience, induction, and for recording and verification of training, for all persons undertaking works covered by the CEMP
2. require that all contractors, subcontractors and relevant third parties receive induction and ongoing instruction on the obligations, procedures and environmental management measures set out in the CEMP before commencing work.

54.2 Communication and complaints protocol

The CEMP must include a communication and complaints protocol which details:

1. how relevant parties will be notified in relation to construction activities taking place in accordance with the CEMP
2. how complaints about non-compliance with the CEMP are documented, managed, and responded to
3. dedicated requirements for noise and vibration management, and helicopter noises.

Documented complaints must be made available to the Commission on request.

54.3 Approved plans and strategies forming part of the CEMP

The following plans and strategies once approved under the relevant conditions form part of the CEMP.

- a. Condition **12**: Soil and water management plan
- b. Condition **13**: Dust management plan
- c. Condition **14**: Karst and springs management plan
- d. Condition **15**: Groundwater and dewatering management plan
- e. Condition **16**: Temporary works rehabilitation strategy
- f. Condition **17**: Weed, disease and hygiene plan
- g. Condition **18**: Biosecurity plan
- h. Condition **19**: Vegetation management plan
- i. Condition **27**: Raptor nest management plan
- j. Condition **29**: Den management plan
- k. Condition **30**: Roadkill management plan
- l. Condition **31**: Watercourse crossing management plan
- m. Condition **34**: Burnie Burrowing Crayfish impact management plan
- n. Condition **41**: Stormwater management plan
- o. Condition **47**: Traffic management plan

- p. Condition **49**: Transport strategy
- q. Condition **53**: Unanticipated discovery plan (Aboriginal relics)

54.4 Noise and vibration management plan

The CEMP must include a noise and vibration management plan (NVMP), to control, manage and mitigate noise and vibration impacts on sensitive receivers during construction (including decommissioning).

The plan must:

1. specify the approved construction hours of work (condition **36** and additional requirements for works in the 'high priority noise management zones' below)
2. identify noise and vibration sensitive receivers within 500m of the project site
3. specify measures to be implemented to control, manage and mitigate the impacts from noise and vibration emissions on sensitive receivers
4. specify a schedule of works that reduces the duration of exposure of sensitive receivers to elevated noise levels
5. identify potentially noisy work phases and the proposed means to minimise impact on sensitive receivers
6. identify potentially vibration causing activities and the proposed means to minimise impact on sensitive receivers
7. specify that vehicles, plant and equipment are to be turned off when not in use, or throttle down when used intermittently
8. specify dedicated details for the CEMP communications and complaints protocol for notifying sensitive receivers that noisy and vibration causing activities are going to be undertaken, prior to those activities being undertaken, and for dealing with any breaches of the NVMP and establish a means of recording, managing, and responding to any complaints or breach notifications
9. detail a monitoring and reporting protocol for noise and vibration levels.

In addition, for the 'high priority noise management zones' identified in the maps in Appendix D of the Marhsall Day Noise and Vibration Assessment Report (7 Mar 2025), the plan must specify:

10. works on Saturdays, Sundays and public holidays must be avoided
11. low noise emission plant must be used (i.e. selection of plant which incorporates dedicated noise control measures, or fitting plant with additional noise control measures)
12. dedicated community notification and consultation details for the CEMP communications and complaints protocol.

Noise and vibration levels, and details of breach notifications and complaints, must be made available to the Commission on request.

54.5 Helicopter noise management plan

The CEMP must include a helicopter noise management plan, to manage impacts on sensitive receivers.

The plan must:

1. specify the approved construction hours of work (condition **36** and **54.4**)
2. identify sensitive receivers within flight path and land zones
3. specify measures to minimise noise impacts
4. require the CEMP communications and complaints protocol to have dedicated section dealing with helicopter noise
5. detail a monitoring and reporting protocol for noise levels.

54.6 Demolition and construction waste management plan

The CEMP must include a demolition and construction waste management plan.

The plan must be in accordance with TasNetworks' waste management hierarchy (in TasNetworks' Environmental Handbook, 2017), and at a minimum must include:

1. details of how demolition and construction waste, including contaminated waste, will be handled, stored and disposed of
2. details of recycling opportunities.

54.7 Monitoring and compliance auditing

The CEMP is subject to the monitoring and compliance auditing requirements in condition **60**.

Post-Construction and Operational Phase

55. Operational eagle mortality plan

Prior to the stringing of conductors (and optical ground wires) within 1km of a Tasmanian Wedge-tailed Eagle or White Bellied Sea Eagle nest (known or active), an operational eagle mortality plan must be submitted to and approved by the Commission.

The plan must include:

1. assessment and risk modelling of Tasmanian Wedge-tailed Eagle and White Bellied Sea Eagle collision with the transmission line
2. mitigation strategies to be implemented, including at a minimum the application of bird diverters (or similar) on at least the optical ground wires where they are higher than the surrounding canopy and in the vicinity of Tasmanian Wedge-tailed Eagle and White Bellied Sea Eagle nests
3. a requirement for post construction Tasmanian Wedge-tailed Eagle and White Bellied Sea Eagle strike surveys to be undertaken, including defining the survey area, search method, survey frequency, and survey period
4. actions to be implemented, including additional mitigation actions and offsets, if Tasmanian Wedge-tailed Eagle or White Bellied Sea Eagle carcasses are identified in the survey area
5. offset triggers, where offsets are proposed as an action to be implemented under 4.

The plan must be implemented once approved.

56. Visual impact – vegetation management

The following specific ongoing vegetation management measures must be undertaken:

1. for towers 117-139 in the Palmerston to Sheffield section of the transmission line, towers and poles 52-64 in the Sheffield to Burnie section of the transmission line, and towers 14-29 in the Burnie to Hampshire Hills section of the transmission line, excluding the areas of tower foot pads and access tracks, groundcover vegetation within the easement must:
 - i. be maintained or replanted if it dies
 - ii. have a varied edge condition in shape to present a less continuous form
 - iii. be allowed to grow to a modest height (1.5m minimum)
 - iv. be of a variety of types (i.e. ground covers, shrubs, and small trees).
2. for towers and poles 52-64 in the Sheffield to Burnie section of the transmission line to reduce the contrast between the cleared easement and adjacent contiguous vegetation:
 - i. pruning must include creating a varied height in the vegetation underneath the transmission line
 - ii. the vegetation clearing along the easement must not be in a straight line

- iii. bare areas must be rehabilitated.

57. Visual impact – screening vegetation

Prior to commissioning of the transmission line, screening vegetation to the eastern boundary of the new works at the Sheffield substation and the north and east of the Burnie substation must be planted and maintained, to a mature height adequate to provide visual screening of the substations (2m minimum).

58. Visual Impact – off-site landscaping program

Prior to commissioning of the transmission line, an off-site landscape screening program to reduce the visual impact of the transmission line must be implemented at TasNetworks' cost, applicable to the following locations:

- a. on titles occupied by a dwelling within 50m of poles T94 to T98 in the Sheffield to Burnie section of the transmission line and towers T2 to T5 of the Burnie to Hampshire Hills section of the transmission line
- b. on titles within 400m of a pole or tower that are occupied by a dwelling, zoned Rural, Agriculture, Landscape Conservation or Rural Living under the Tasmanian Planning Scheme applying in the municipal area, and not subject to any easement associated with electricity transmission.

The off-site landscaping screening program must specify:

- 1. all titles located within the areas identified in a. and b. above
- 2. the extent of landscaping to be offered to the owners of the identified titles
- 3. the typical plant types to be used for the screening, including their height when planted, and their height and spread at maturity.

On those titles where the owner has consented, landscaping must be planted within 12 months of commissioning of the transmission line.

59. Decommissioning of approved electricity infrastructure

The electricity infrastructure approved by this permit must be removed at end of life, and the land rehabilitated, in accordance with best practices (unless otherwise approved for another use and development).

Monitoring and Auditing

60. Condition scope

This condition applies to all stages of the project (pre-construction, construction including decommissioning of the old 220 kV transmission line, commissioning, operation, and final decommissioning) and to all permit obligations, including but not limited to the Construction Environmental Management Plan and its sub-plans, protocols, and strategies.

Where a plan, protocol or strategy required by another condition specifies more stringent monitoring or reporting than this condition, the more stringent requirement prevails.

60.1 Monitoring

The permit holder must implement monitoring programs adequate to verify compliance and performance under this permit. This includes, but is not limited to, in relation to the following:

1. workforce accommodation
2. construction management
3. vegetation management, including adherence to clearing limits and methods, and rehabilitation works
4. raptor nest management
5. den management
6. roadkill management
7. watercourse crossing management
8. Burnie Burrowing Crayfish impact management
9. noise and vibration management (including helicopter noise)
10. soil, water, and dust management
11. stormwater management
12. biosecurity, weed, disease, and hygiene management
13. karst and springs management
14. groundwater and dewatering management
15. visual impact management
16. operational eagle mortality.

60.2 Auditing

During construction, an independent auditor must conduct annual compliance audits covering relevant matters in the permit, including but not limited to those specified in condition **60.1**.

For the first 24 months of operation after commissioning of the transmission line, an independent auditor must conduct annual compliance audits covering relevant matters in the permit.

The independent auditor must produce a written audit report for each audit.

60.3 Auditing reports

The permit holder must provide the audit reports to the Commission and relevant councils within 30 days of their completion.

All monitoring results, registers and raw data must be retained and made available to the Commission on request.

60.4 Adaptive management

The permit holder must implement adaptive management where monitoring or audits indicate controls are ineffective or risks have changed. This includes but is not limited to the matters in condition **60.1**.

60.5 Public information

The permit holder must maintain a project webpage (or equivalent) providing a summary of construction status, staging, contact details for complaints, and (once issued) non-confidential audit summaries and community notifications.

Schedule 1 – Definitions

Access track: a track that allows entry to a tower site for construction and ongoing maintenance.

Agricultural land: all land that is in agricultural use, or has the potential for agricultural use, that has not been zoned or developed for another use or would not be unduly restricted for agricultural use by its size, shape and proximity to adjoining non-agricultural uses.

Commission: the Tasmanian Planning Commission established under the *Tasmanian Planning Commission Act 1997*.

Ecological Protection Zones: those zones described in 7.1.5 of Part E Appendix B Ecology Assessment Report, Entura Rev 0 28 July 2025.

Ecologically Sensitive Zones: those zones described in section 7.1.4 and depicted in Appendix A4 of Part E Appendix B Ecology Assessment Report, Entura Rev 0 28 July 2025.

Ground cover: clearing which retains vegetation up to approximately 1m to 1.5m above ground level, such as grasses, forbs and low-growing shrubs, as depicted on the approved plans Figure A8.12 Overhead transmission line site plans – vegetation clearance.

Ground level: clearing which removes all vegetation to the surface of the ground, as depicted on the approved plans Figure A8.12 Overhead transmission line site plans – vegetation clearance.

Habitat: the area, locality, site or environment, or any part of them, occupied or used by any flora or fauna.

Hazard tree: any tree at risk of striking any transmission line assets.

Karst: a type of landform composed of limestone or dolomite and characterized by underground drainage systems, sinkholes, gorges, etc., formed by dissolution.

Karst feature: a characteristic of karst, for example a cave or sinkhole.

Mid storey: clearing which retains vegetation to varying heights, generally 6 to 15m above ground level, as depicted on the approved plans Figure A8.12 Overhead transmission line site plans – vegetation clearance.

Native vegetation: plants that are indigenous to Tasmania including trees, shrubs, herbs and grasses that have not been planted for domestic or commercial purposes.

Notified corridor: as depicted on the approved plans Figure A8.8 Overhead transmission line site plans – project infrastructure.

Potential habitat: All habitat types within the potential range of a species that are likely to support that species in the short and/or long-term. It may not include habitats known to be occupied intermittently (such as occasional foraging habitat).

Sensitive receiver: noise and vibration sensitive locations where environmental noise and vibration levels are assessed. Includes buildings and areas used by people for extended periods, except in the course of their employment or for recreation, such as residential premises, schools, hospitals, and caravan parks.

Significant habitat: habitat within the known range of a species that is known to be of high priority for the maintenance of breeding populations throughout the species' range, as provided in the Forest Practices Authority Biodiversity Values Database.

Spring: a place where water wells up from an underground source.

Streamside reserves: all land within the distance specified in Table 7 of the Forest Practices Code 2020 from the banks of a watercourse, lake, artificial storage or tidal waters.

Slash and chip materials: material left on the ground after harvesting, including tree heads, shrubs and other woody material.

Watercourse: a defined channel with a natural or modified bed and banks that carries surface water flows for part or all of the year for most years.

Schedule 2 – TasWater’s Submission to Planning Authority Notice

Submission to Planning Authority Notice

Application details

TPC Ref: DOC/25/51882
TPC notice date 23/05/2025
TasWater Reference No. TWDA 2025/00554-BCC
Date of response 03/06/2025
TasWater Contact AI Cole
Phone No. 0439605108

Response issued to

Name Tasmanian Planning Commission
Contact details tpc@planning.tas.gov.au
Development details
Address various
Property ID (PID) multiple
Description of development North West Transmission Upgrades Project (Remaining NWTB)

Schedule of drawings/documents

Prepared by	Drawing/document No.	Revision No.	Issue date
Tetra Tech Coffey	Map Series	N/A	14/03/2025
TasNetworks	Planning Report	N/A	March 2025

Conditions

Pursuant to the *Water and Sewerage Industry Act 2008 (TAS)* Section 56P(1) TasWater imposes the following conditions on the permit for this application:

INFRASTRUCTURE WORKS

- Section 5.1.4 of the Planning report states that no mobile plant can encroach within 6m of the Overhead Transmission lines (OHTL), or within 15m of towers during plant operation. TasWater requires that no tower(s) or associated infrastructure, including the OHTL, be located, or easement(s) created, that restricts or prevents TasWater's current unfettered ability to access, operate, maintain and replace TasWater's existing infrastructure, with or without mobile plant and equipment. Prior to any development works or use commencing, the applicant must submit plans to TasWater outlining compliance with 5.1.4 of the planning report and receive written consent to continue with the development. See **Advice** below on service location.
- The developer must take all precautions to protect existing TasWater infrastructure. Any damage caused to existing TasWater infrastructure during the construction period must be promptly reported to TasWater and repaired by TasWater at the developer's cost.

3. Ground levels over the TasWater assets and/or easements must not be altered without the written approval of TasWater.

FINAL PLANS, EASEMENTS & ENDORSEMENTS

4. For any property title that contains TasWater infrastructure, prior to the creation of any new easements that cross and/or pass over TasWater infrastructure, a Consent to Register a Legal Document must be obtained from TasWater as evidence of compliance with these conditions.

Advice: The applicant is invited to discuss the wording of proposed easements with TasWater, to ensure that our current rights are maintained.

DEVELOPMENT ASSESSMENT FEES

5. The applicant or landowner as the case may be, must pay a development assessment fee of \$242.85 to TasWater, as approved by the Economic Regulator and the fee will be indexed, until the date paid to TasWater.

The payment is required within 30 days of the issue of an invoice by TasWater.

Advice

General

For information on TasWater development standards, please visit

<https://www.taswater.com.au/building-and-development/technical-standards>

For application forms please visit

<https://www.taswater.com.au/building-and-development/development-application-form>

Service Locations

Please note that the developer is responsible for arranging to locate the existing TasWater infrastructure and clearly showing it on the drawings. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost to locate the infrastructure.

- a. A permit is required to work within TasWater's easements or in the vicinity of its infrastructure. Further information can be obtained from TasWater.
- b. TasWater has listed a number of service providers who can provide asset detection and location services should you require it. Visit <https://www.taswater.com.au/building-and-development/service-locations> for a list of companies.

Declaration

The drawings/documents and conditions stated above constitute TasWater's Submission to Planning Authority Notice.

Schedule 3 – Project Land



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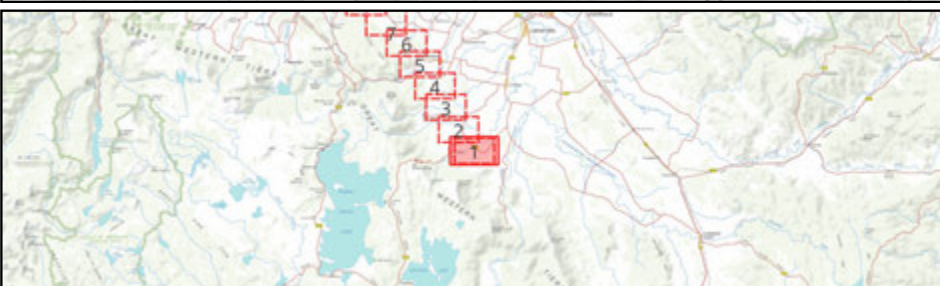
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TOPOGRAPHIC BASEMAP AND LAND TITLE DATA FROM LIST ©STATE OF TASMANIA

- Proposed Towers
- Proposed Easement Area
- Project Land
- Land Parcels (all)

North West Transmission Upgrades Project
Permit MIPP-2026-01
Schedule 3 – Project Land





Blackwood Creek

Cressy

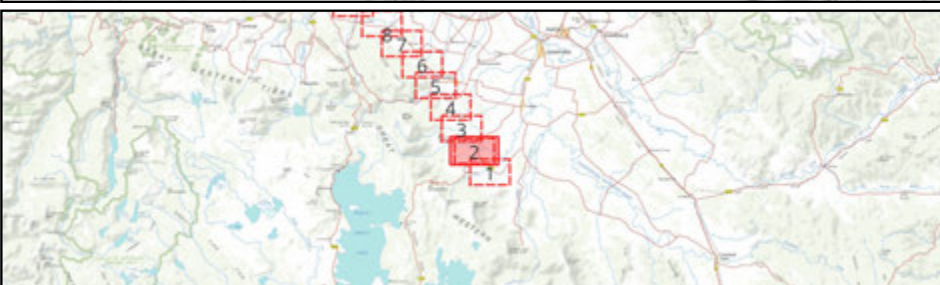
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Bracknell

Blackwood Creek

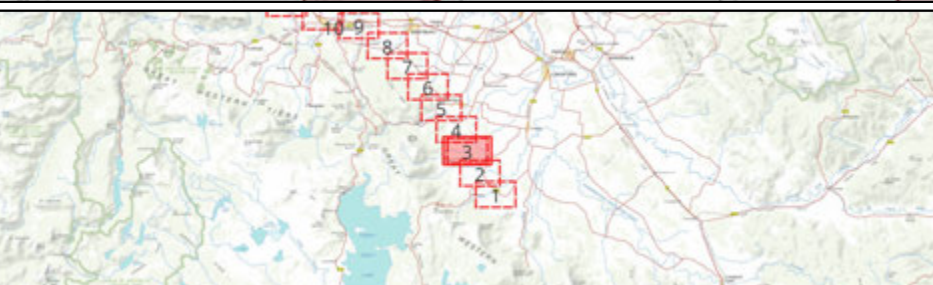
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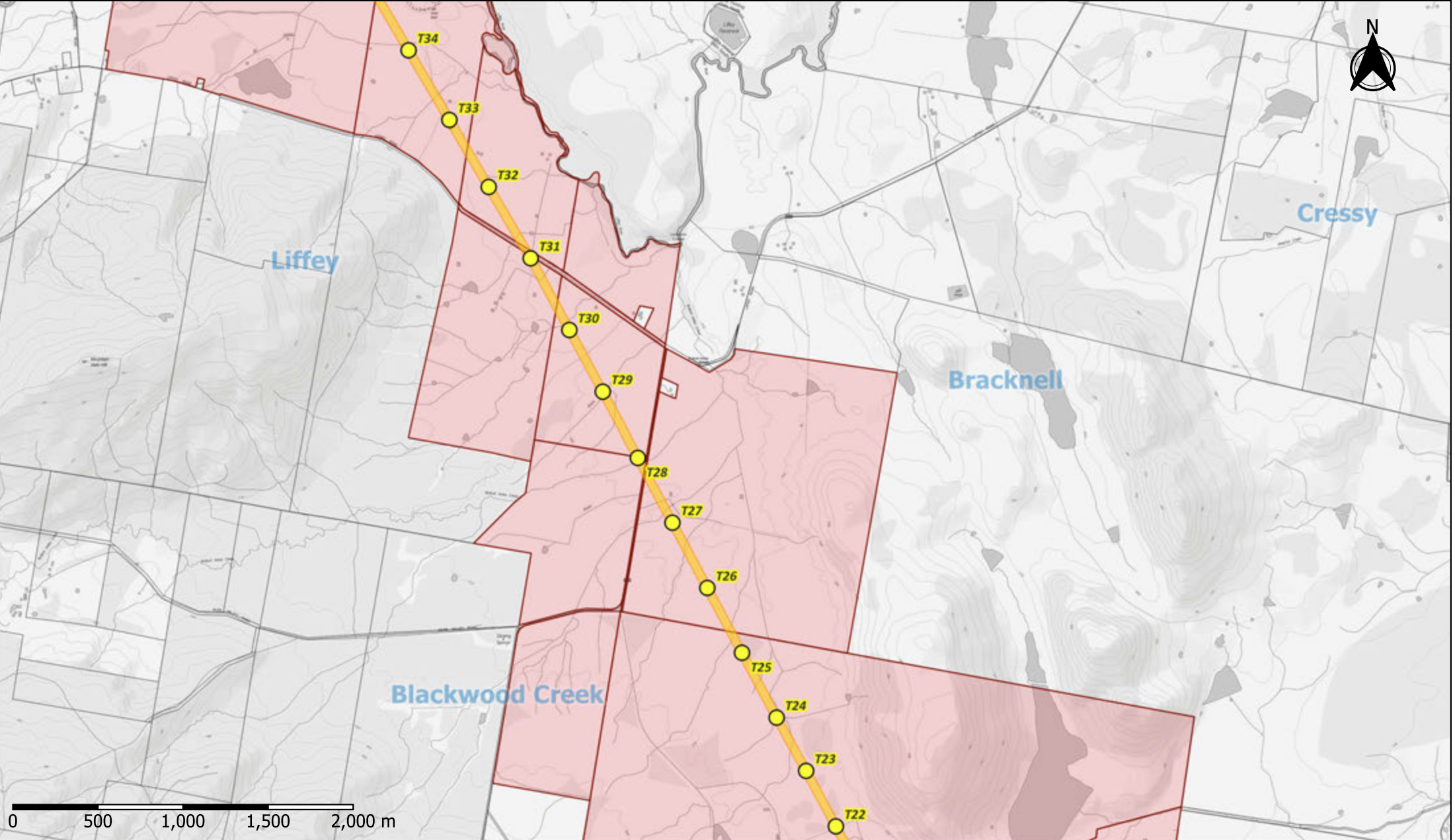
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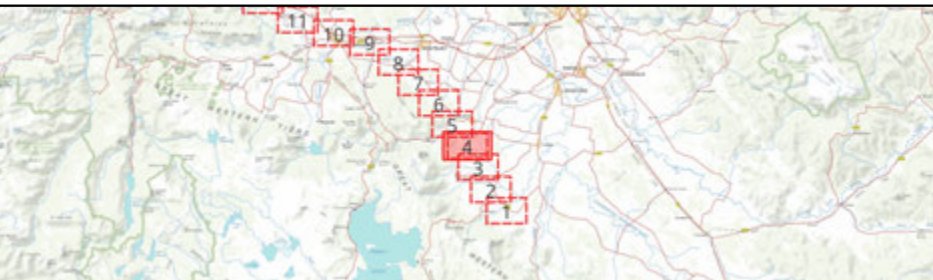




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North West Transmission Upgrades Project
Permit MIPP-2026-01
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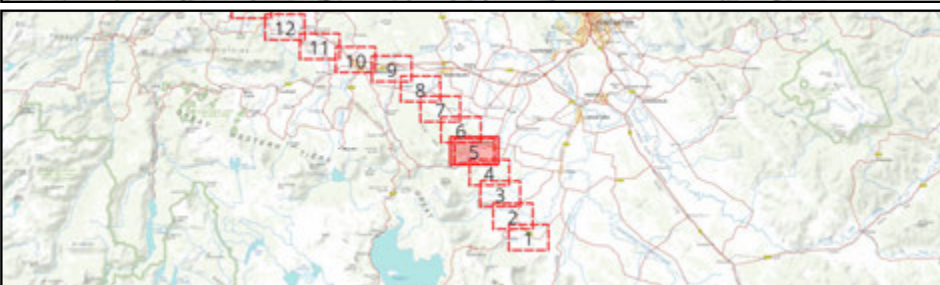
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Whitemore

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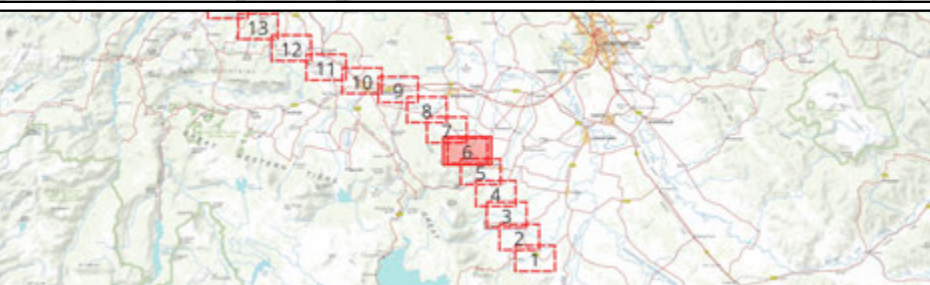
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North West Transmission Upgrades Project
Permit MIPP-2026-01
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Westbury

Whitemore

Osmaston

Cluan

Quamby Brook

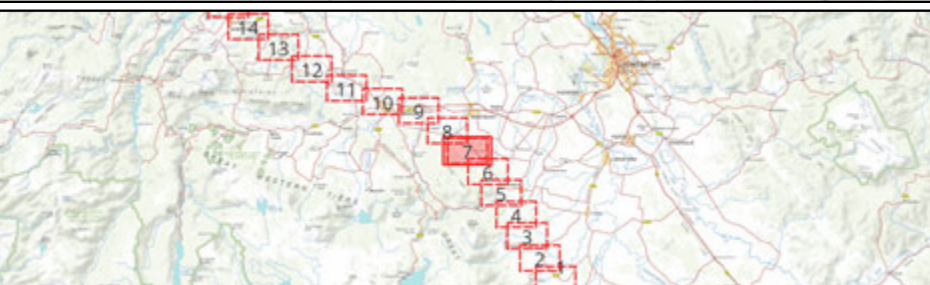
Golden Valley

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North West Transmission Upgrades Project
Permit MIPP-2026-01
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Exton

Westbury

Osmaston

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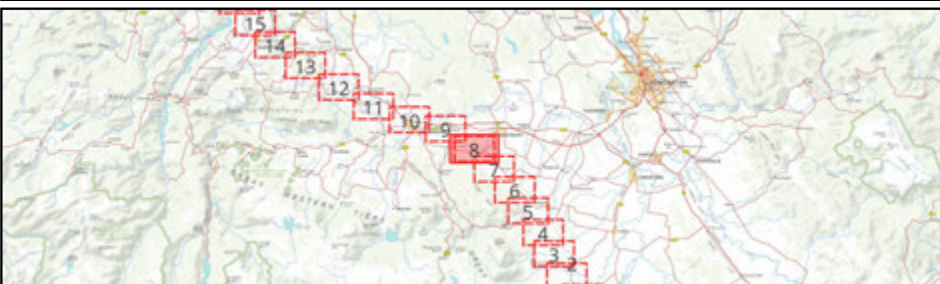
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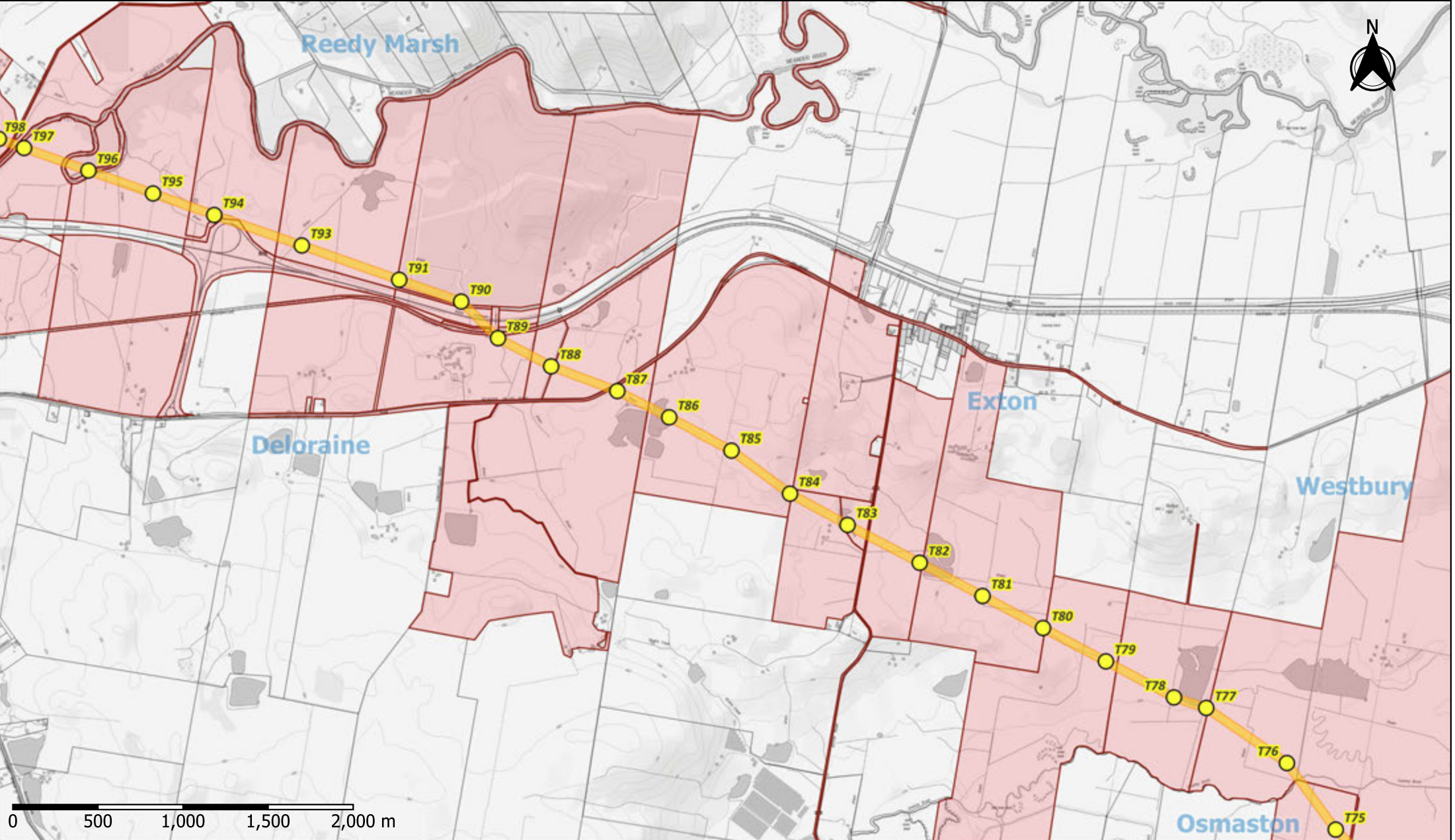
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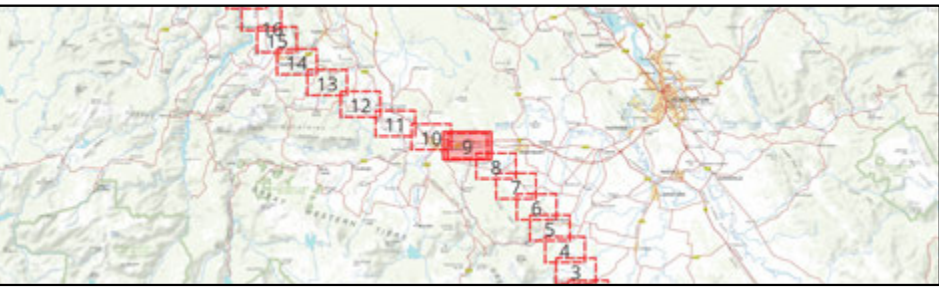
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North West Transmission Upgrades Project Permit MIPP-2026-01 Schedule 3 – Project Land



Reedy Marsh

Dunorlan

Deloraine

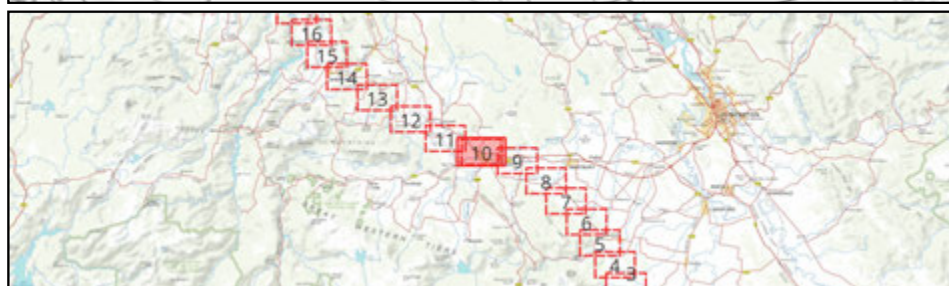
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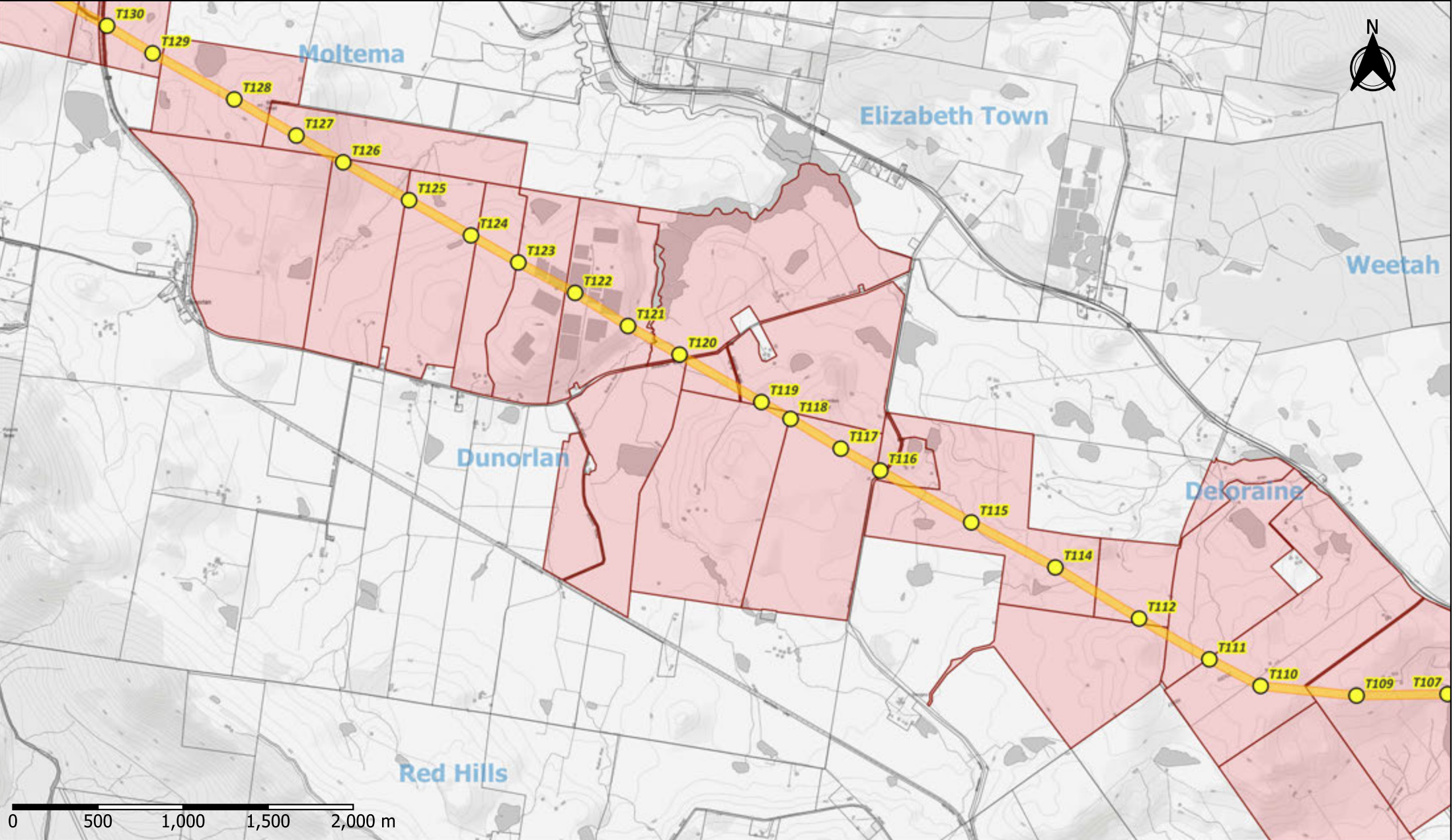
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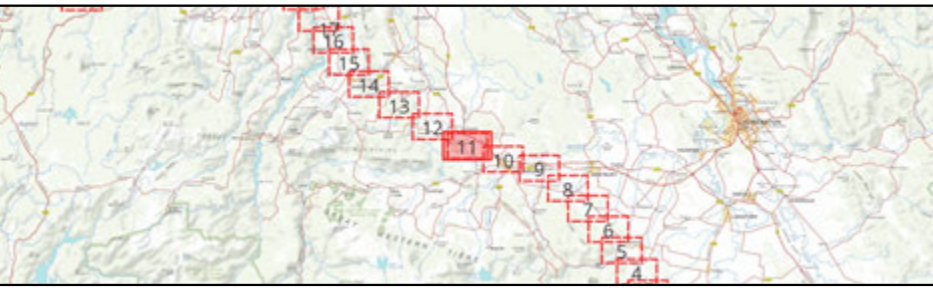
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Permit MIPP-2026-01
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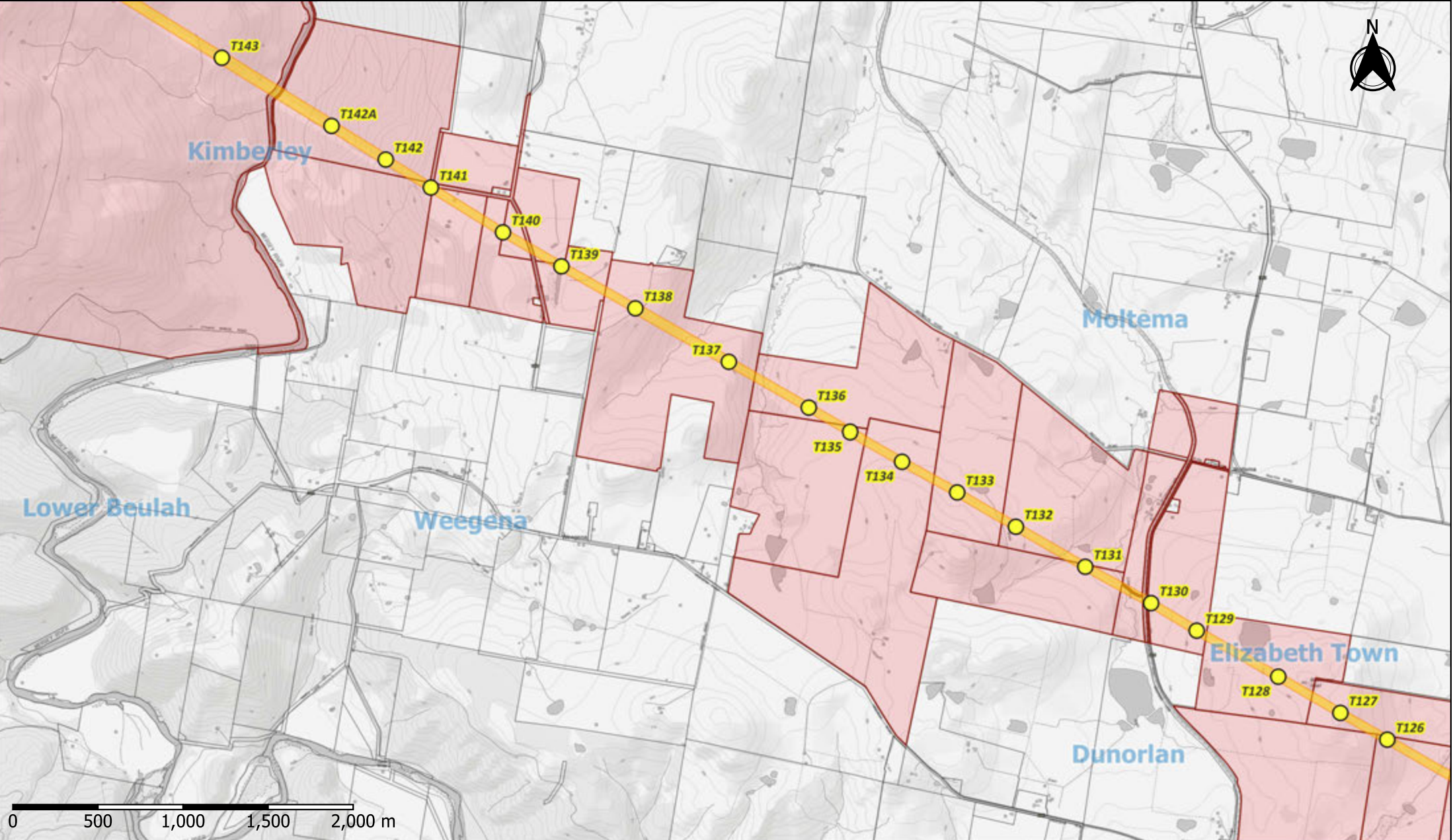


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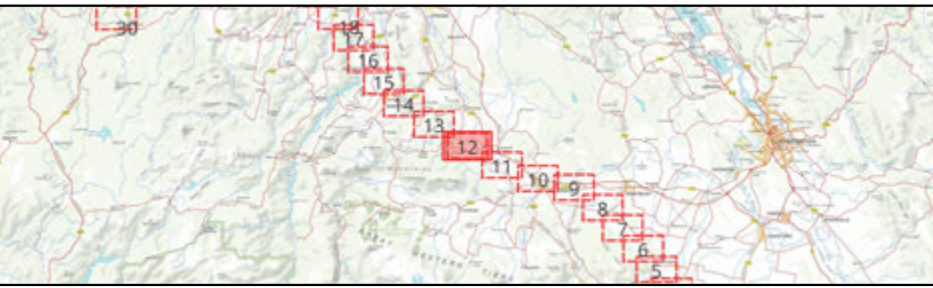


- Proposed Towers
- Proposed Easement Area
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North West Transmission Upgrades Project
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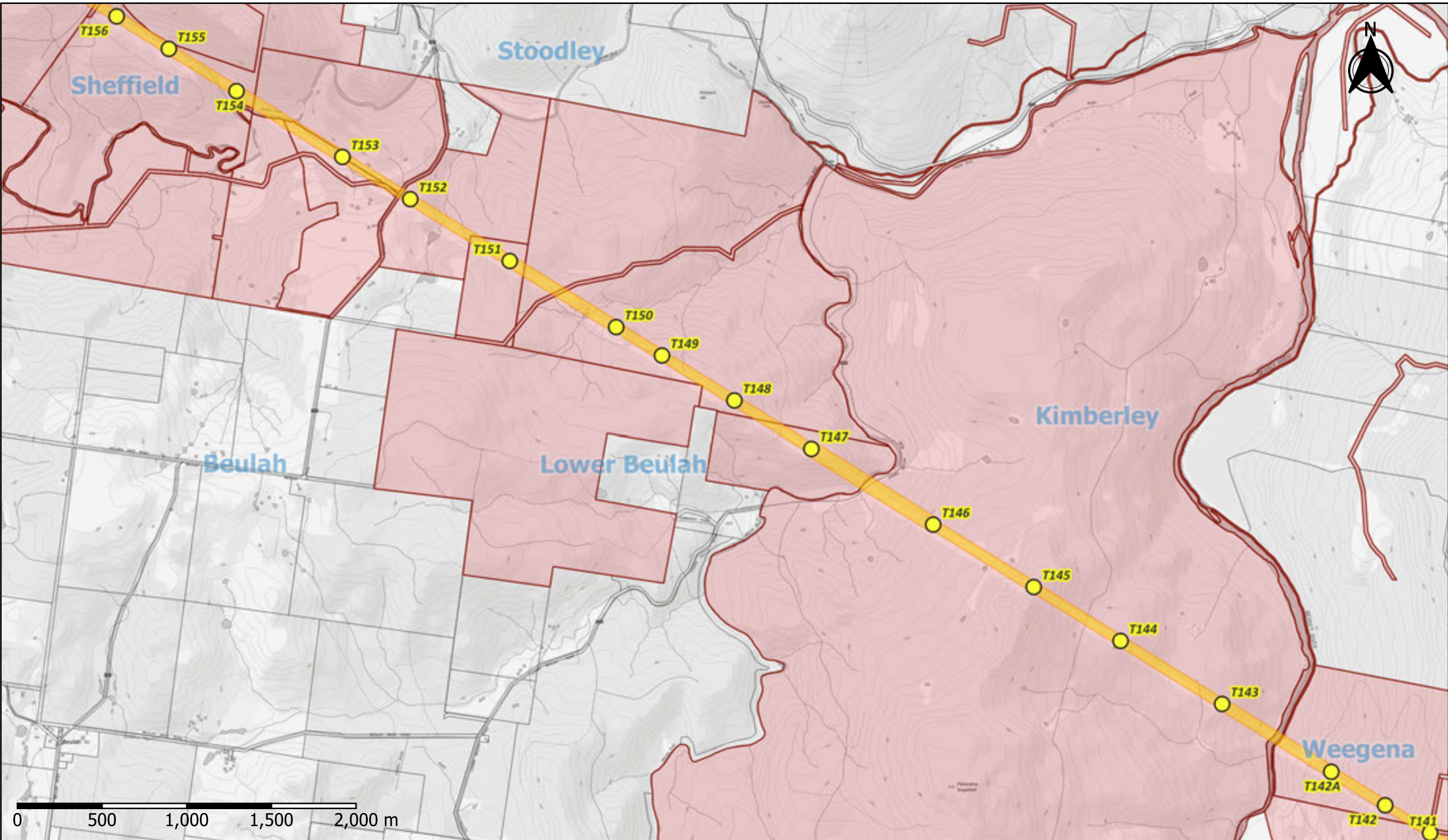


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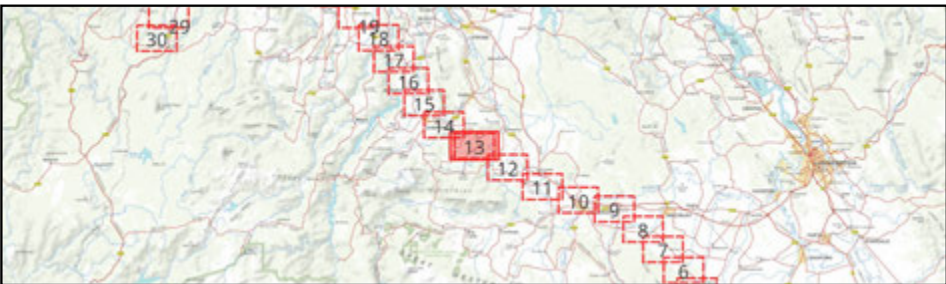
North West Transmission Upgrades Project

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TOPOGRAPHIC BASEMAP AND LAND TITLE DATA FROM LIST ©STATE OF TASMANIA



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North West Transmission Upgrades Project
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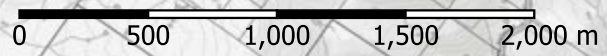
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Stoodley

Sheffield

Paradise

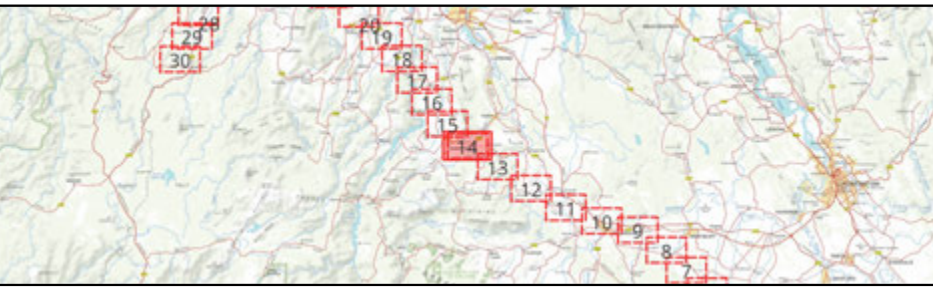
Bellah



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North West Transmission Upgrades Project
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Railton

Nook

Barrington

Nowhere Else

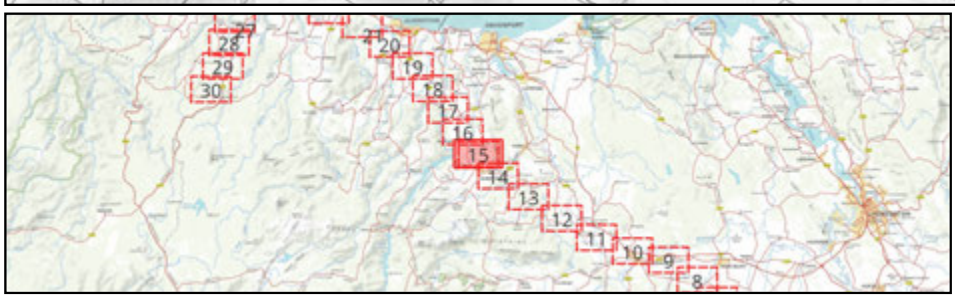
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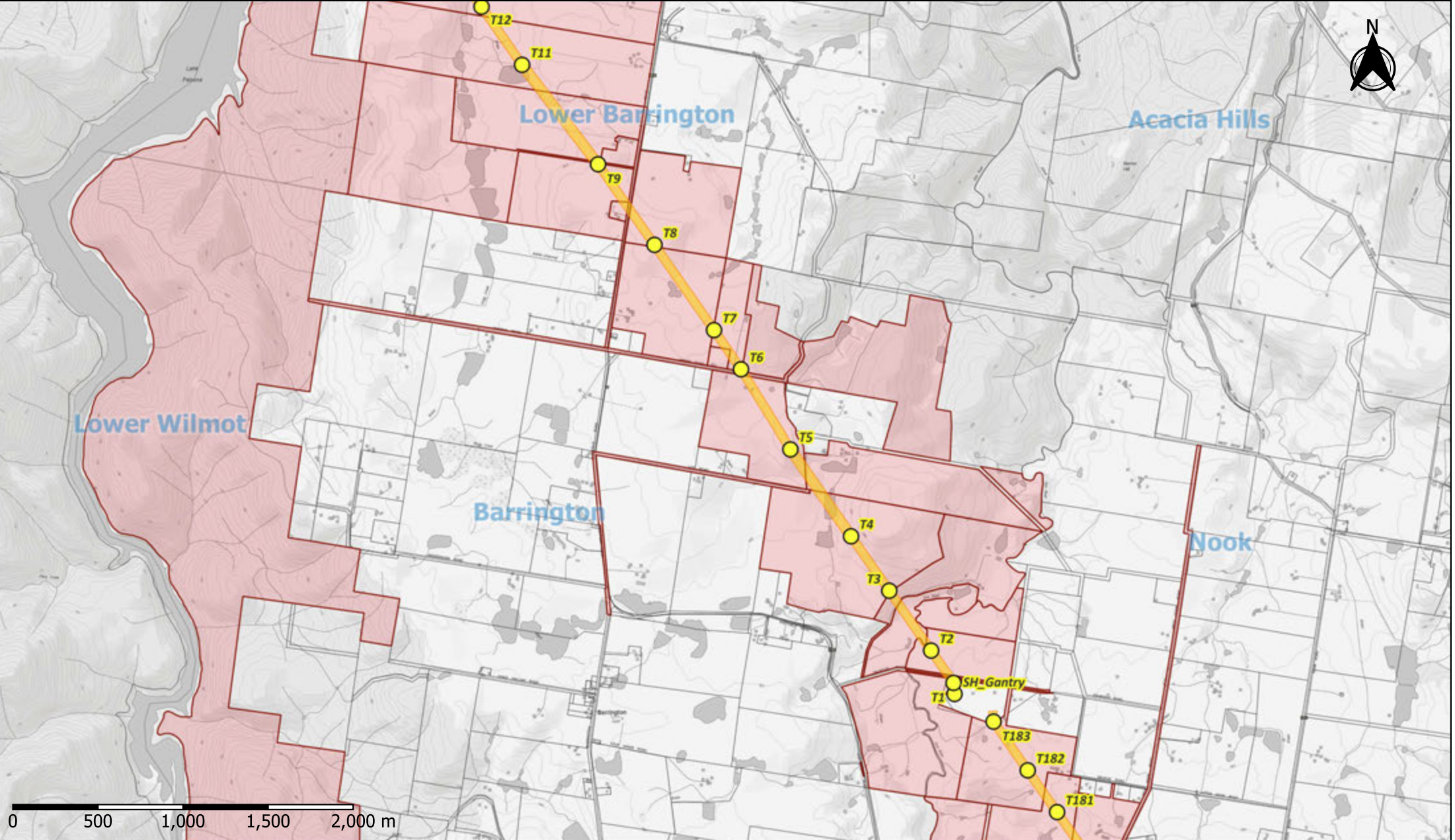


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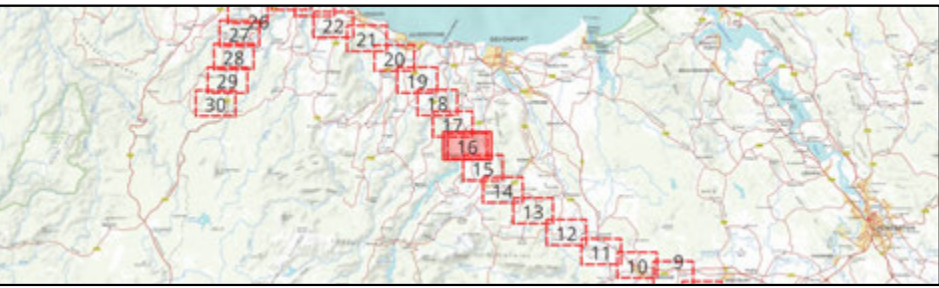
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North West Transmission Upgrades Project
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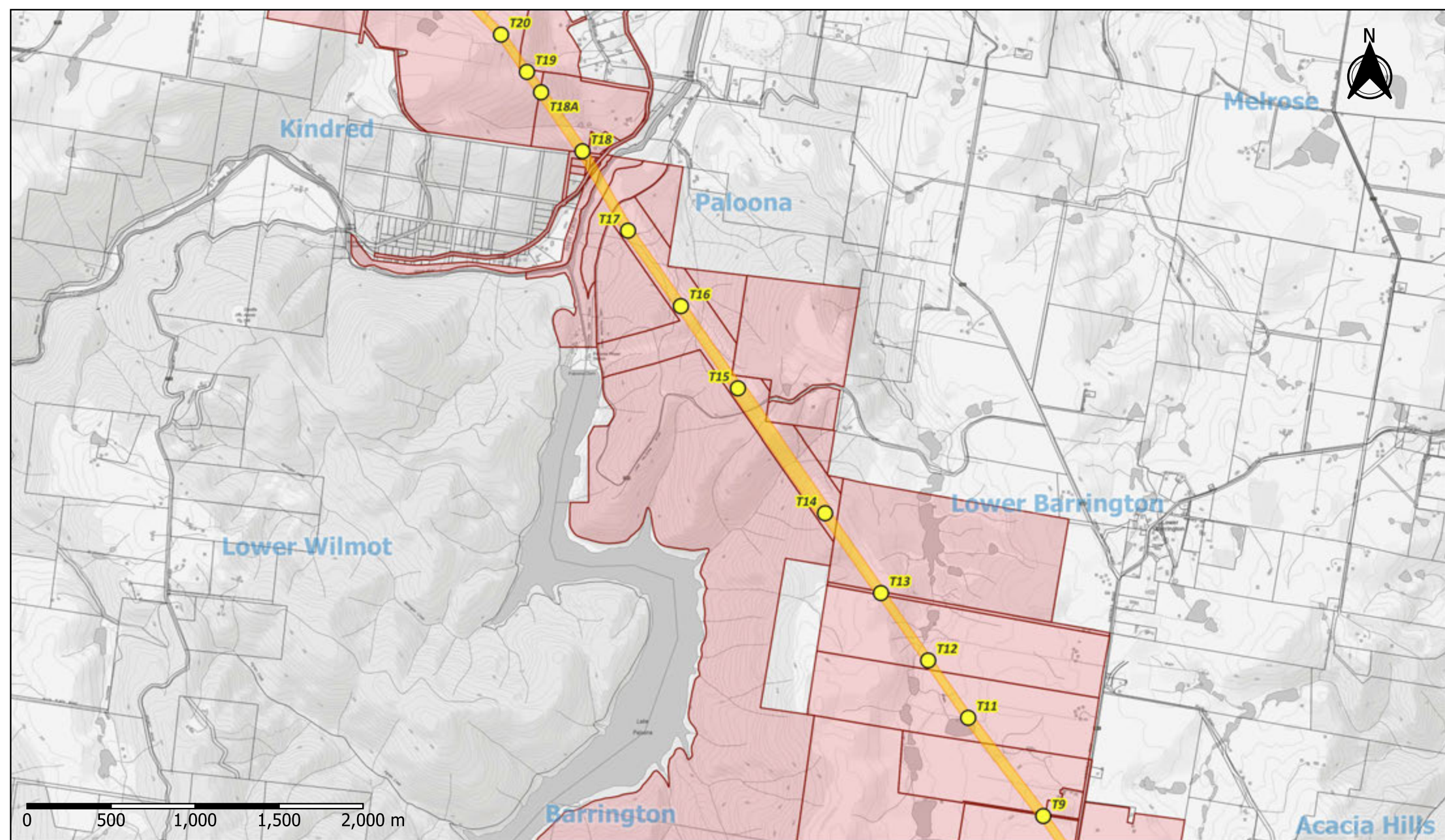


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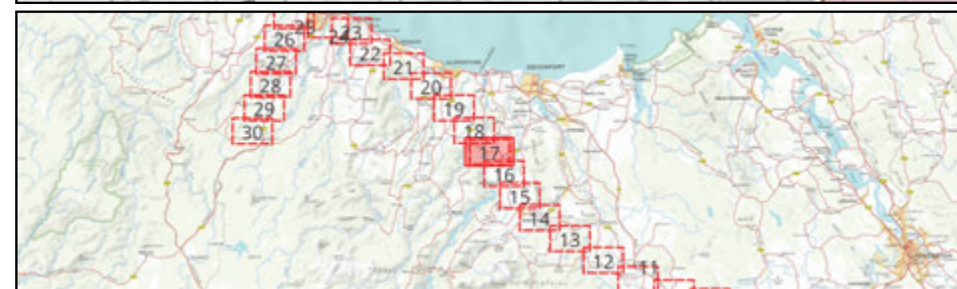
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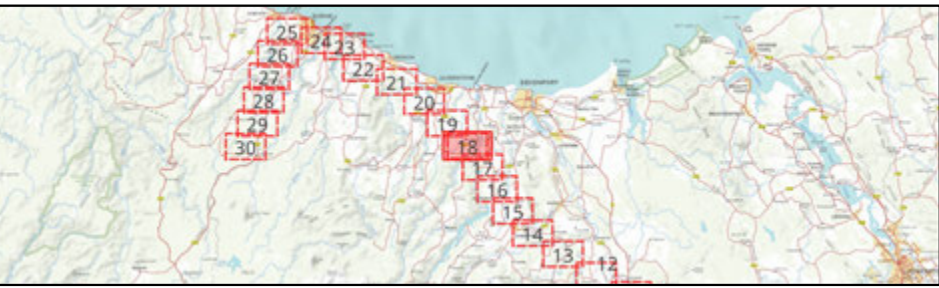
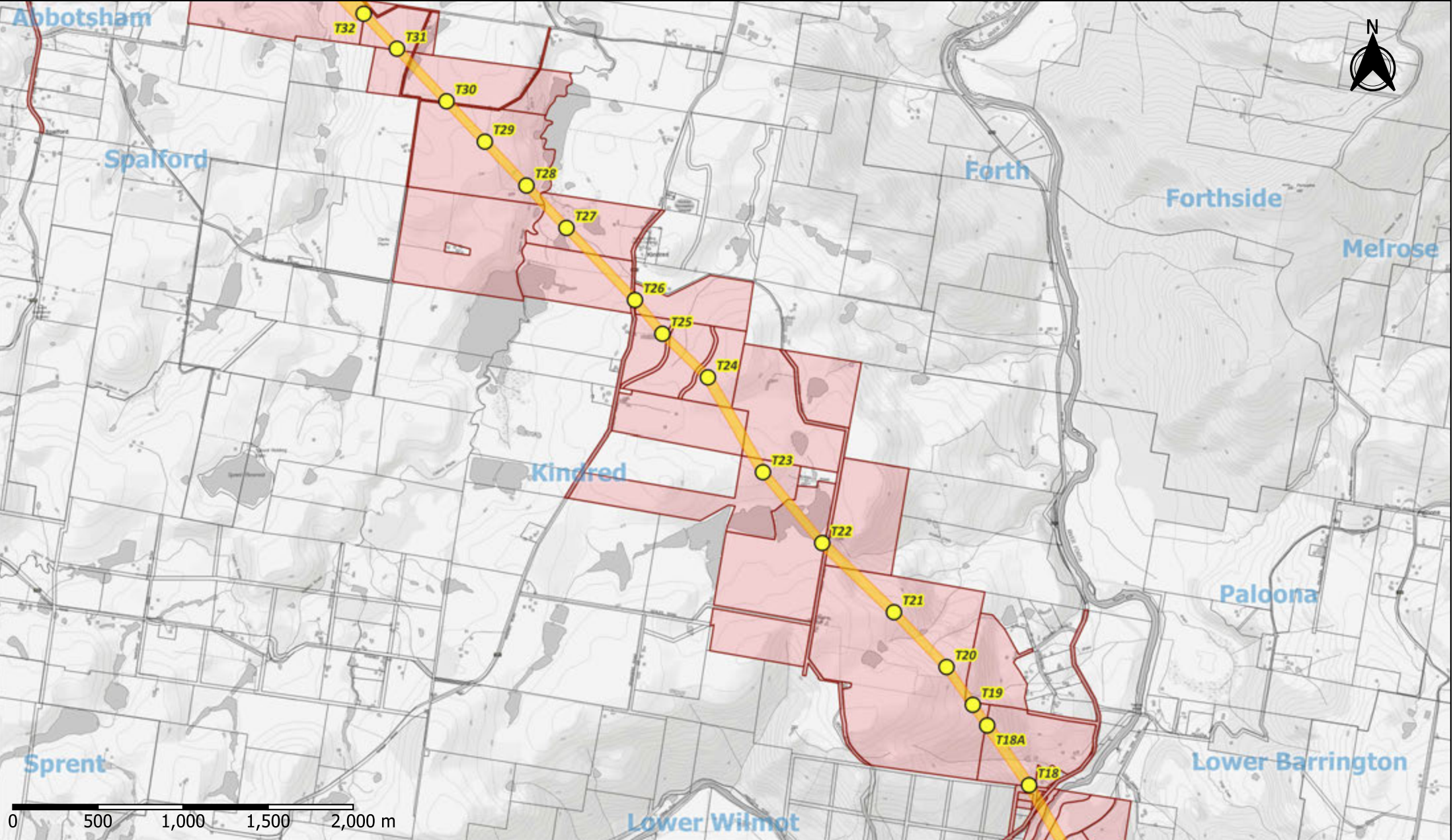
North West Transmission Upgrades Project Permit MIPP-2026-01 Schedule 3 – Project Land



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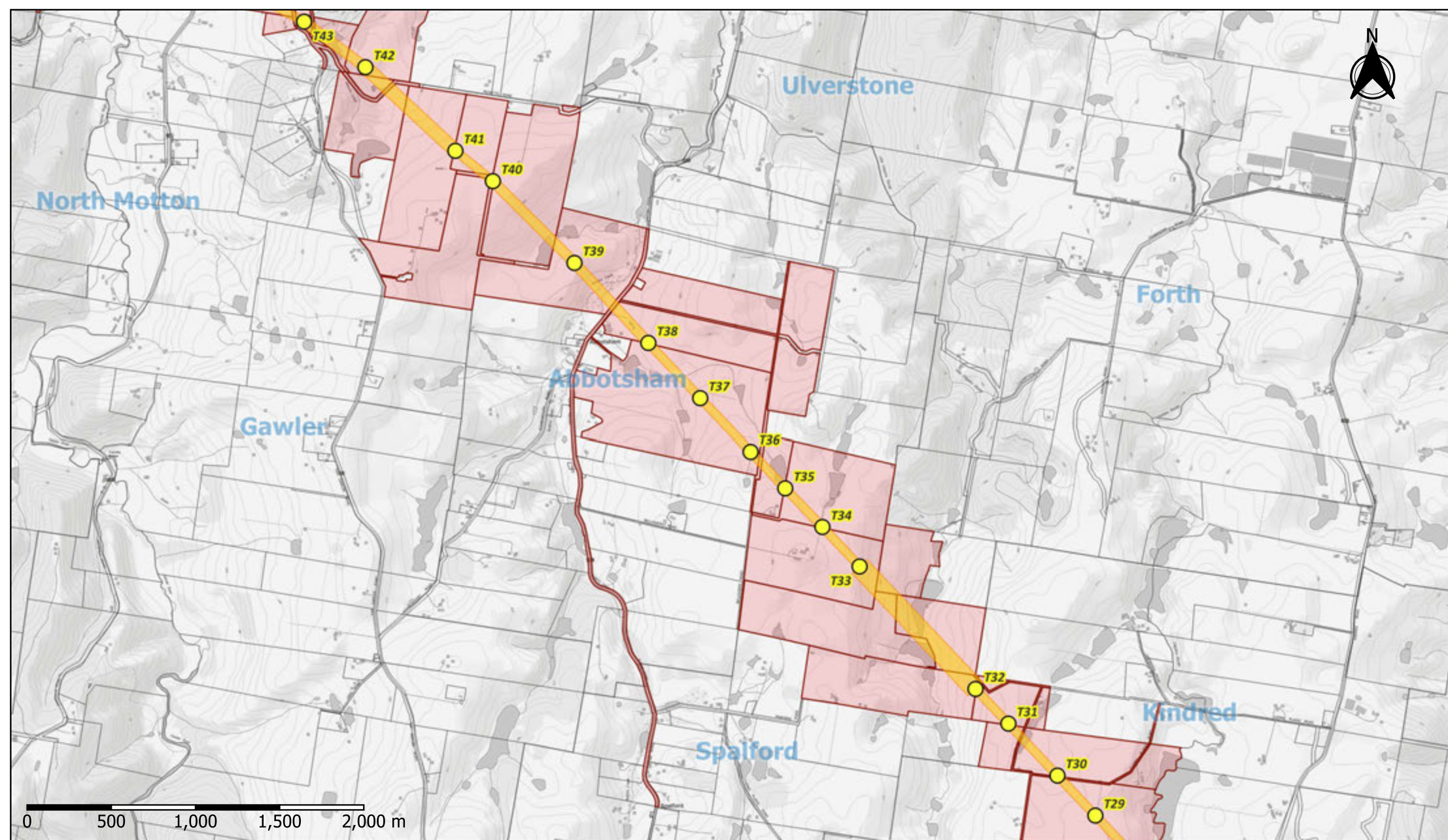
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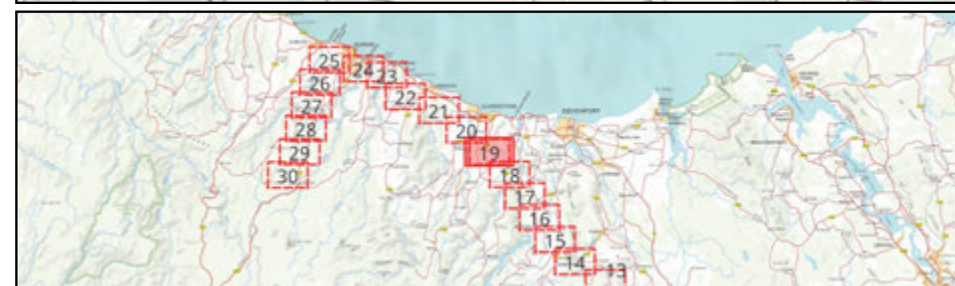
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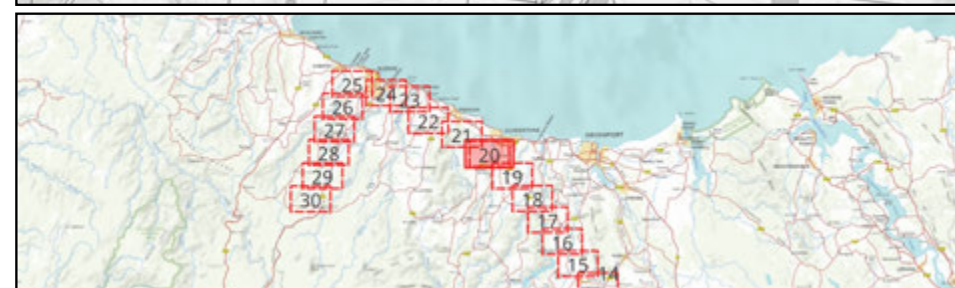
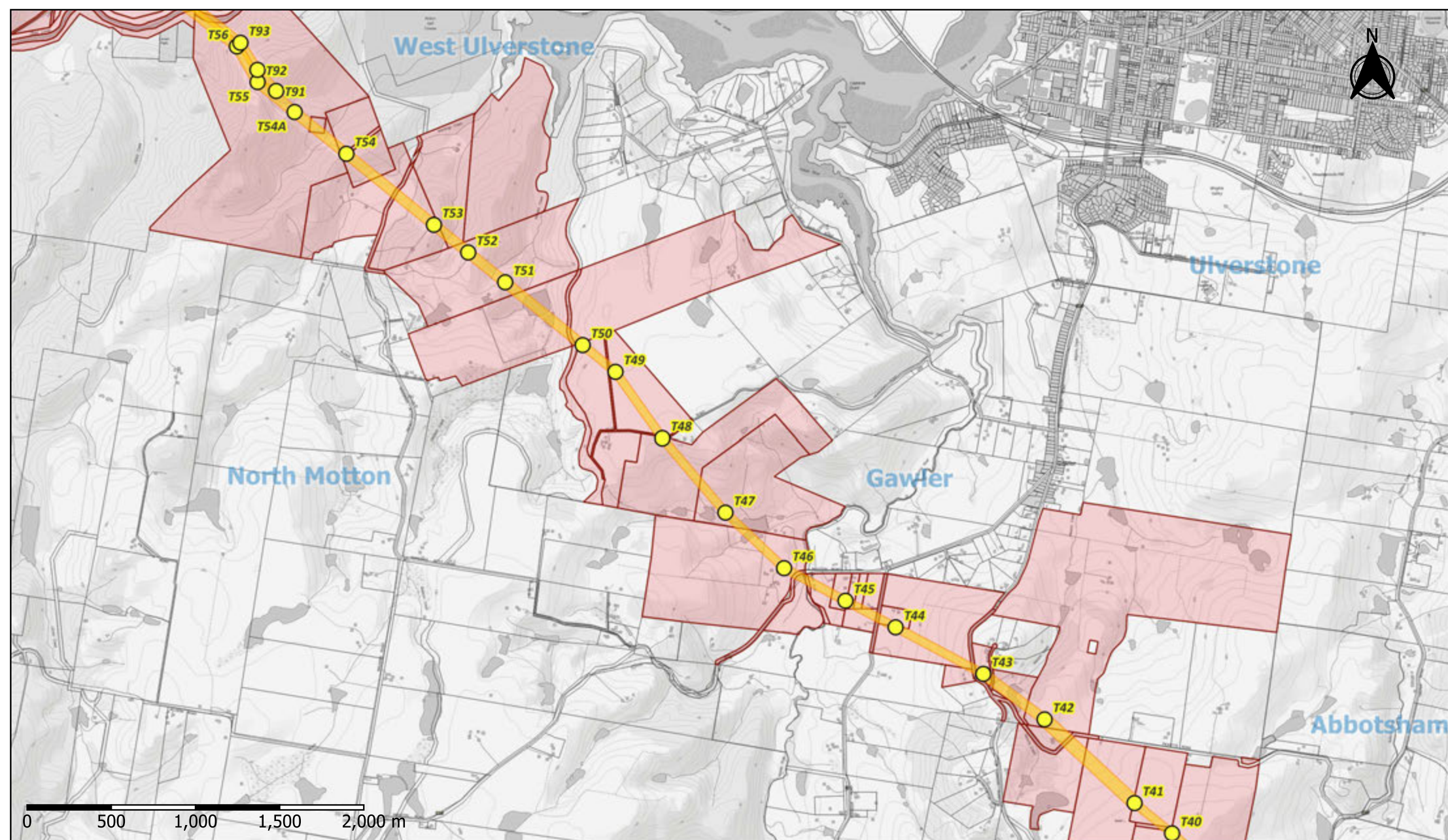
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North West Transmission Upgrades Project

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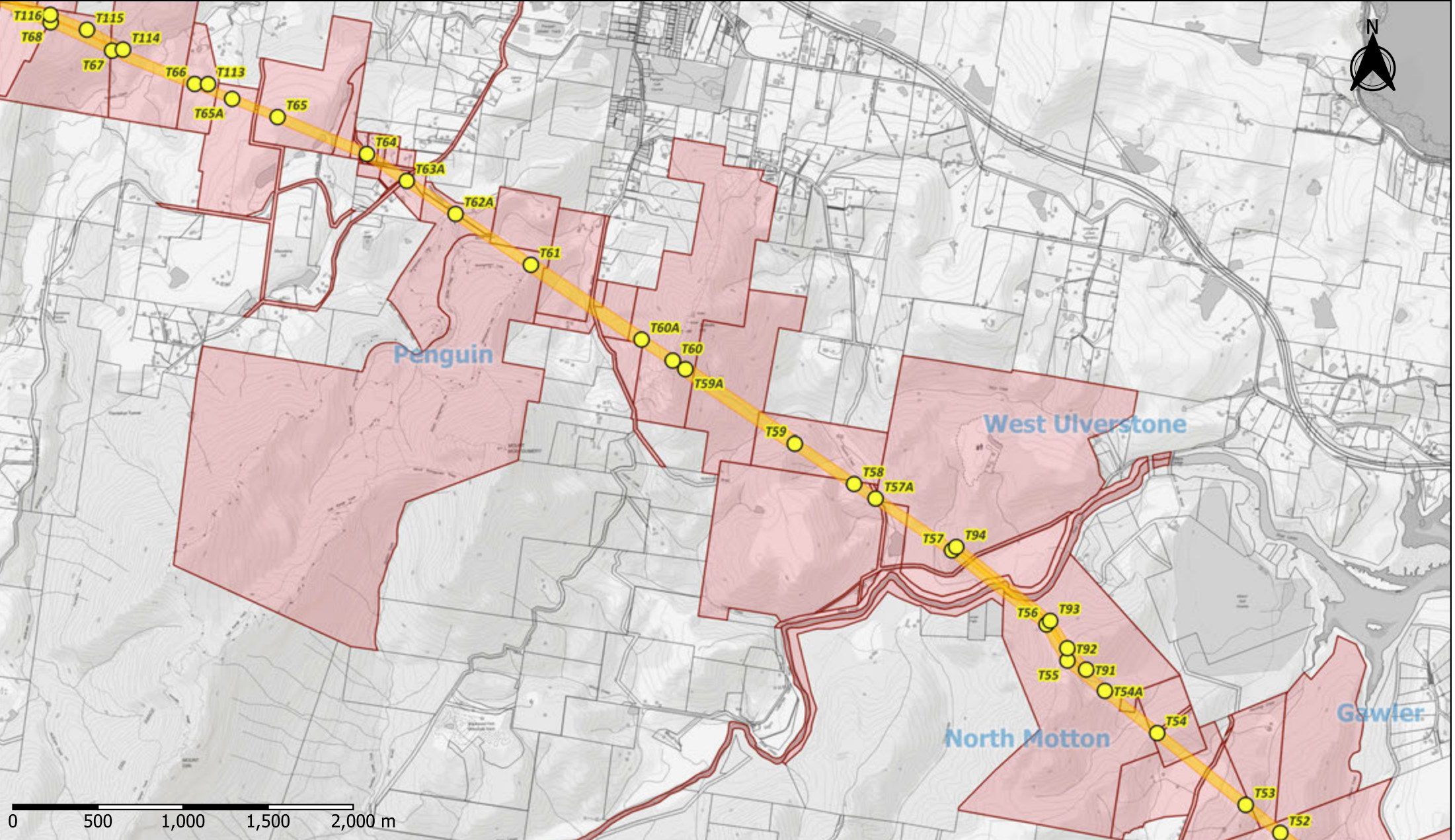
Schedule 3 – Project Land



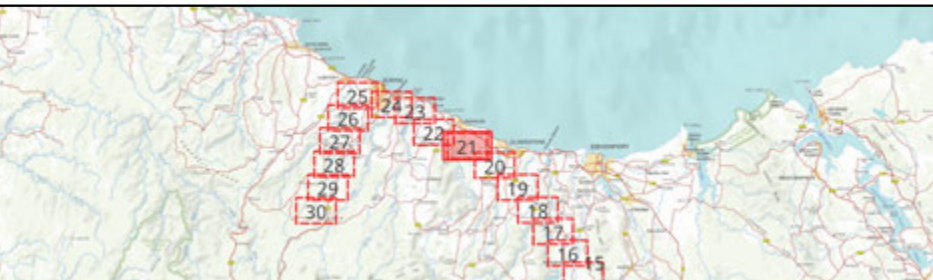


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North West Transmission Upgrades Project
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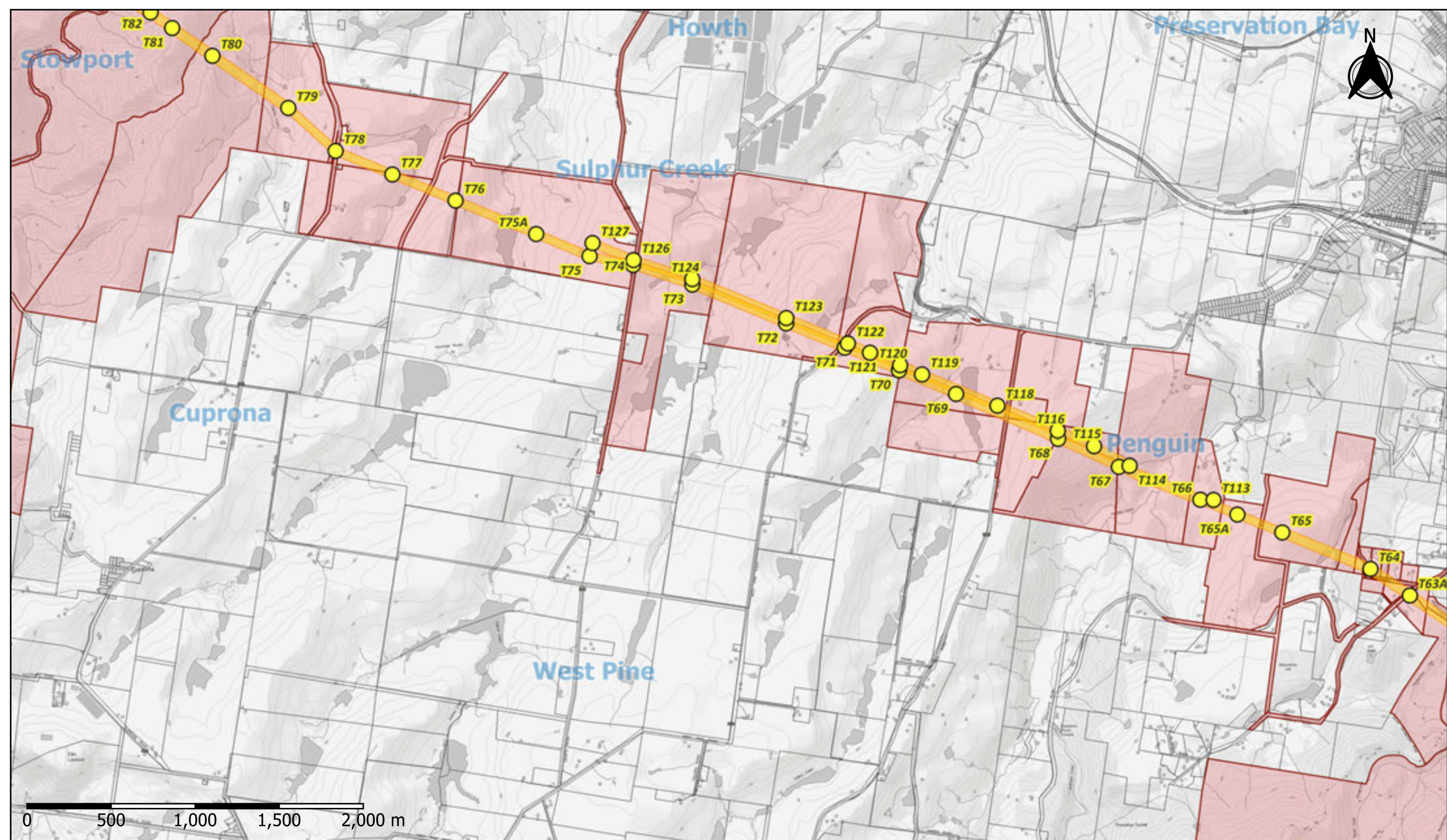


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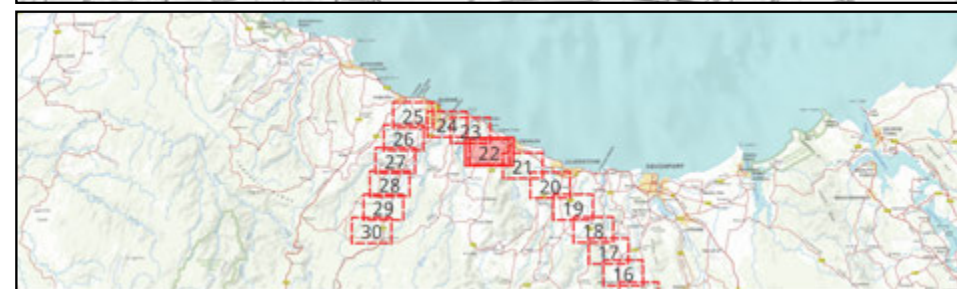
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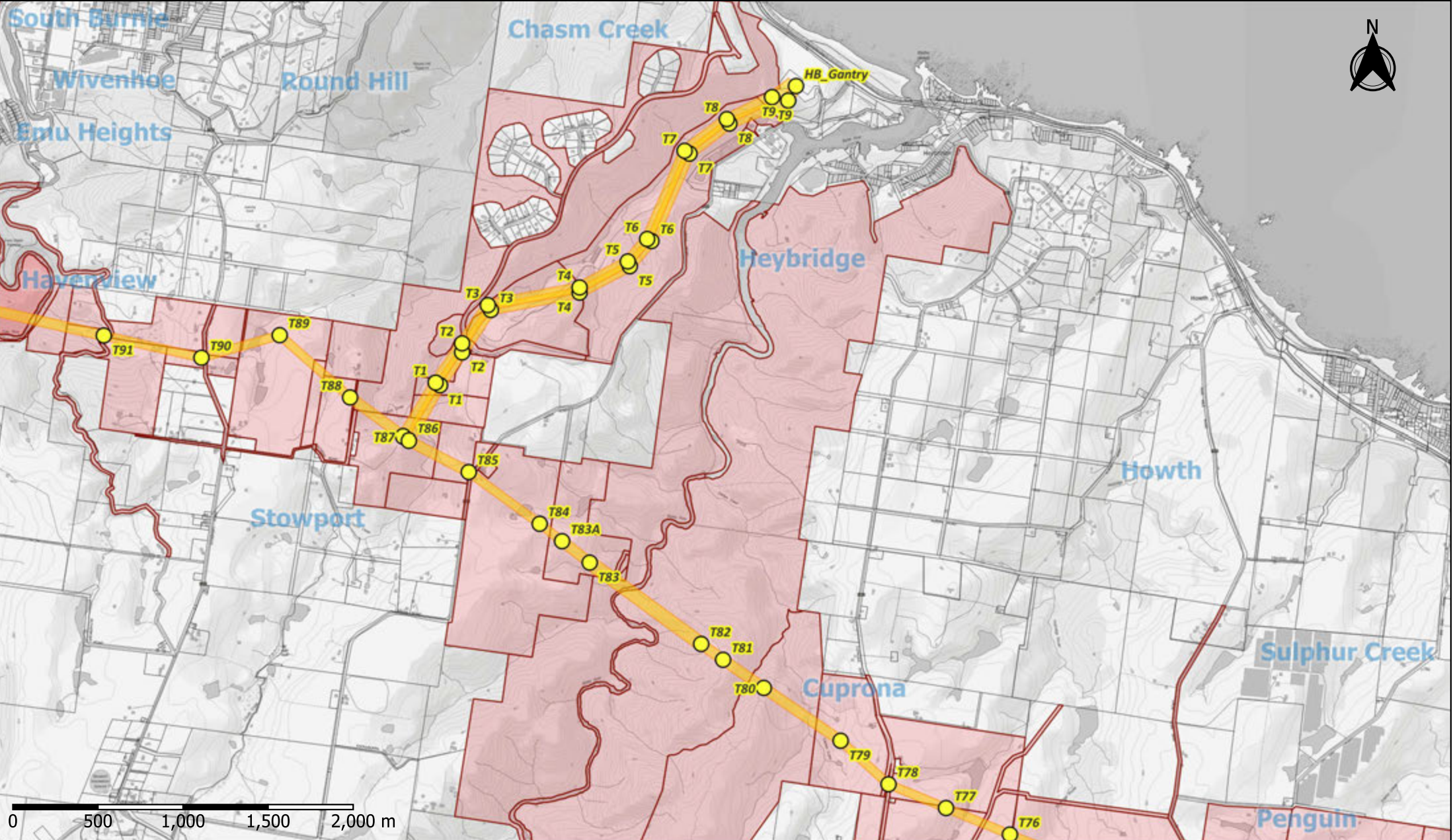
North West Transmission Upgrades Project Permit MIPP-2026-01 Schedule 3 – Project Land



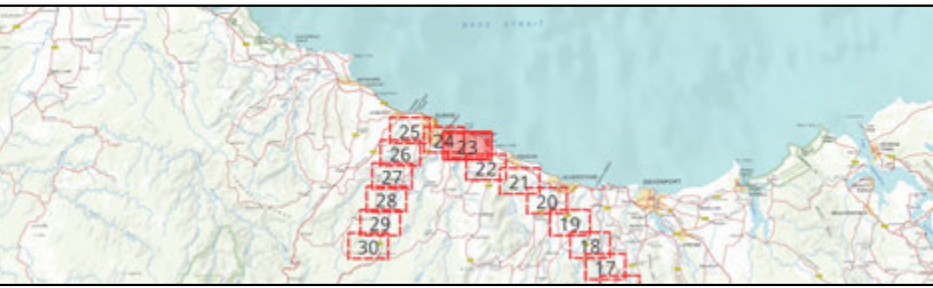
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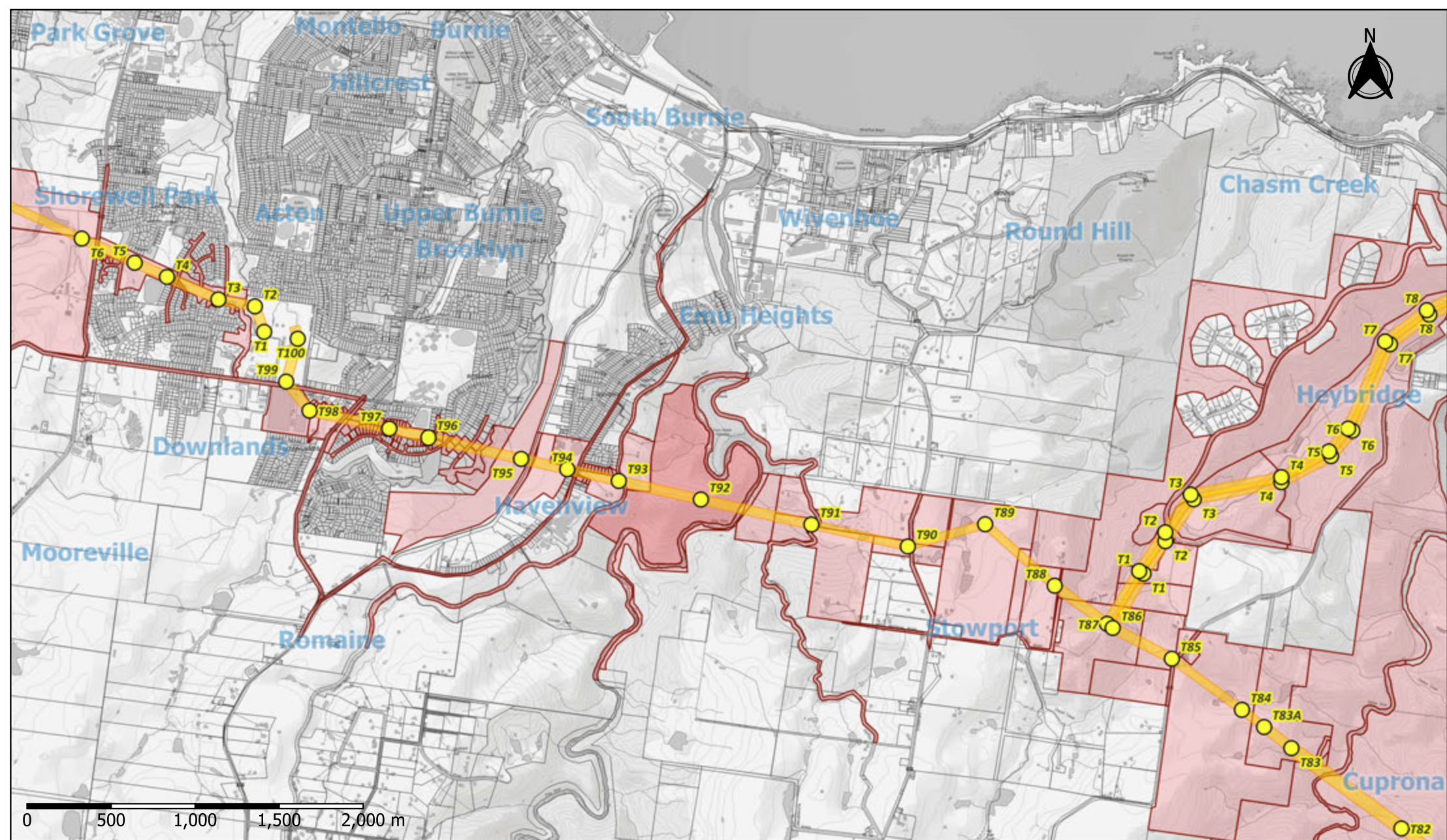


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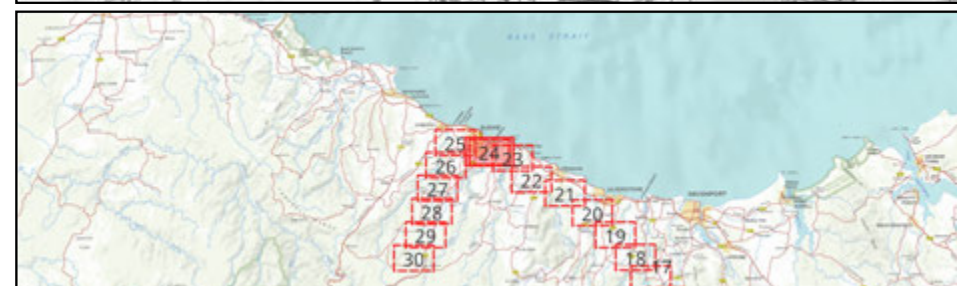
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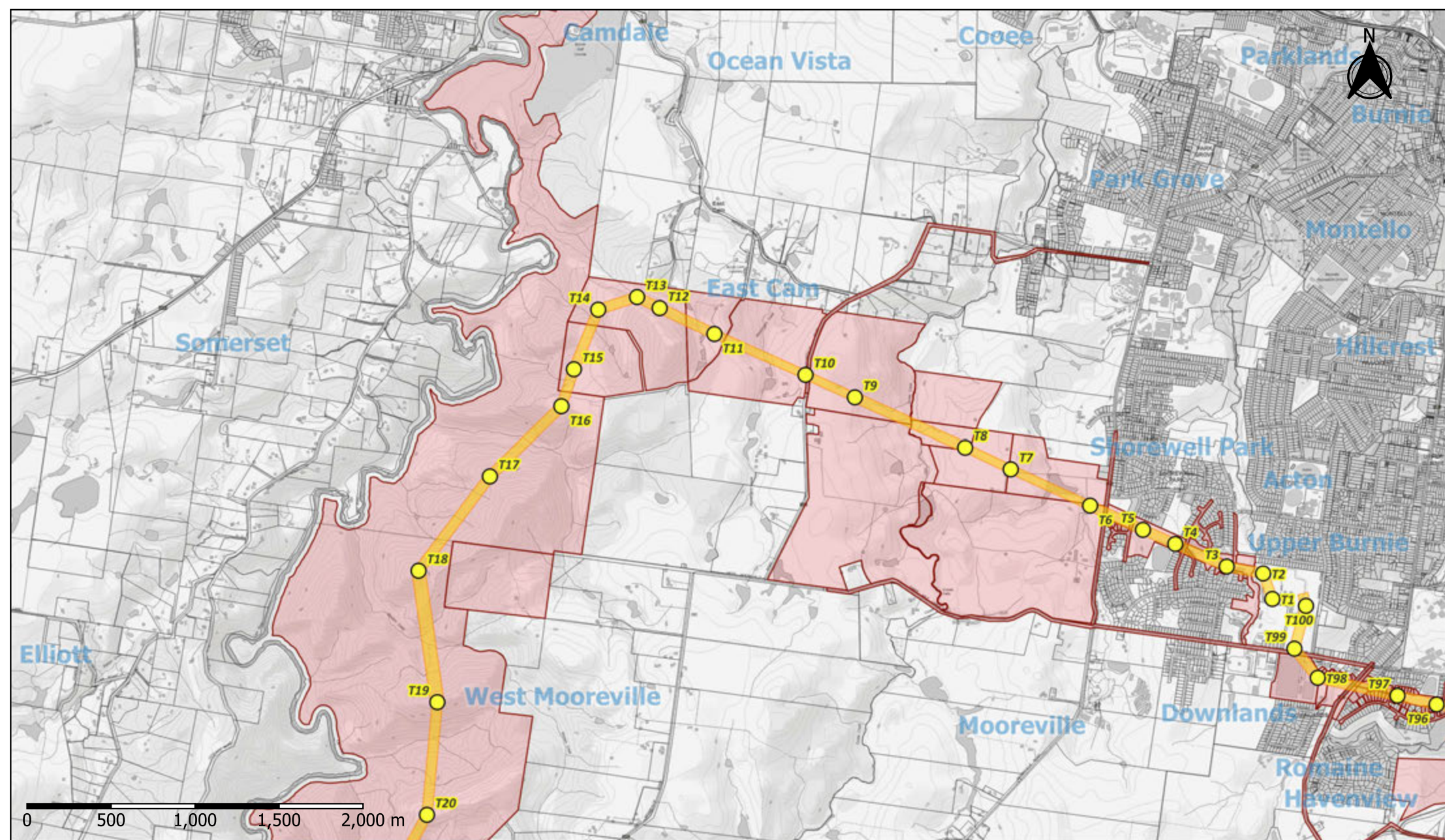
North West Transmission Upgrades Project
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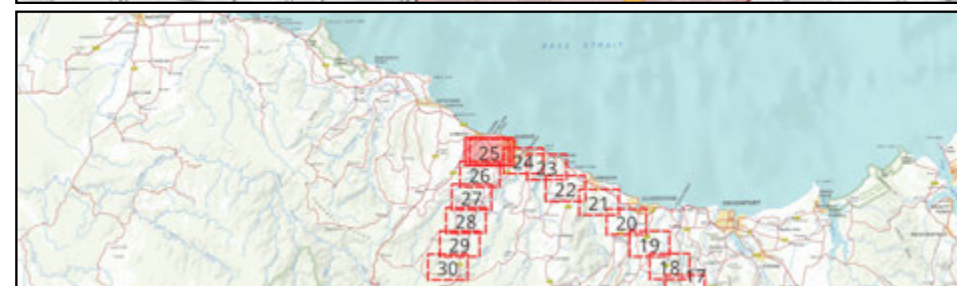
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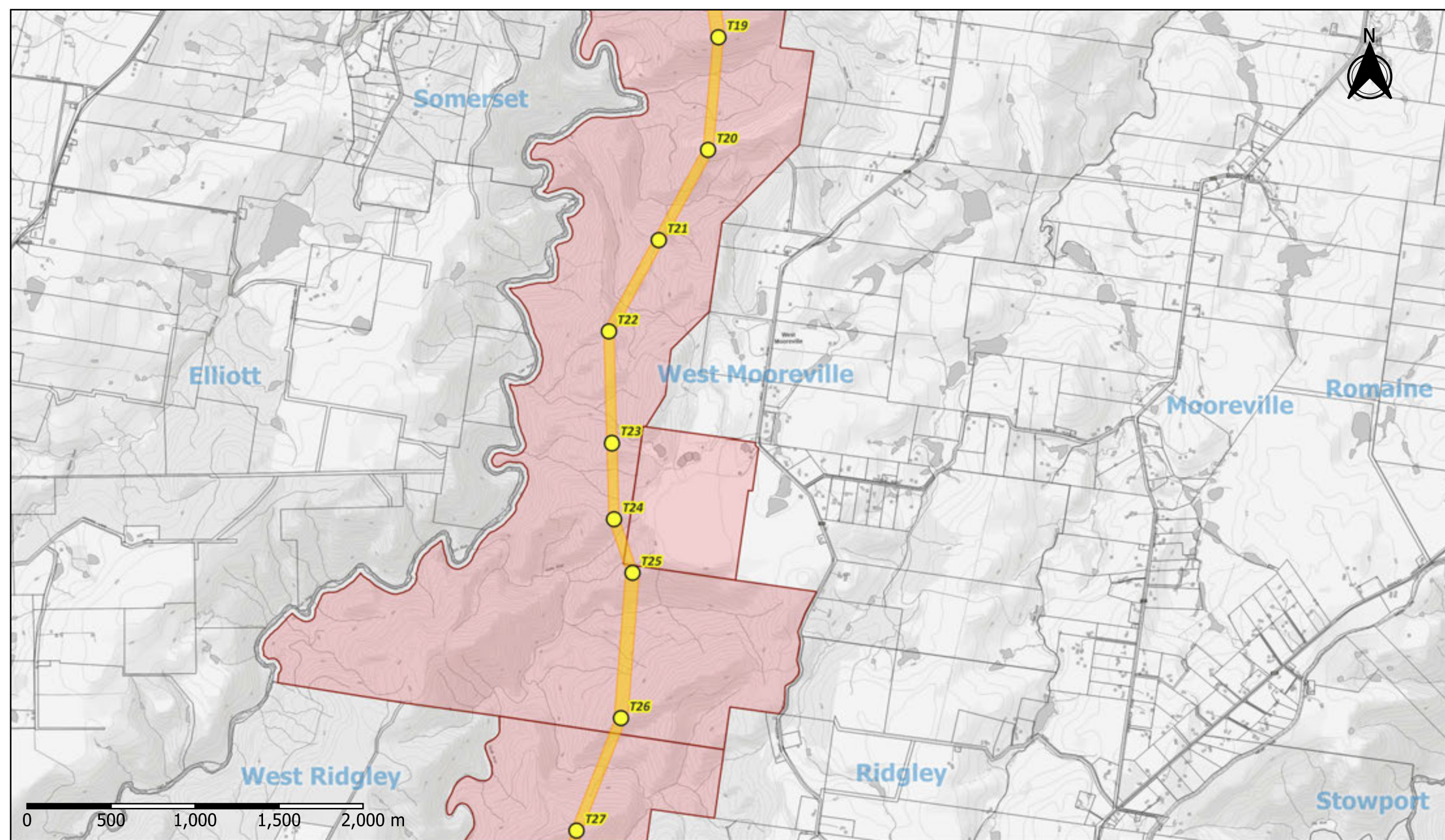
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North West Transmission Upgrades Project

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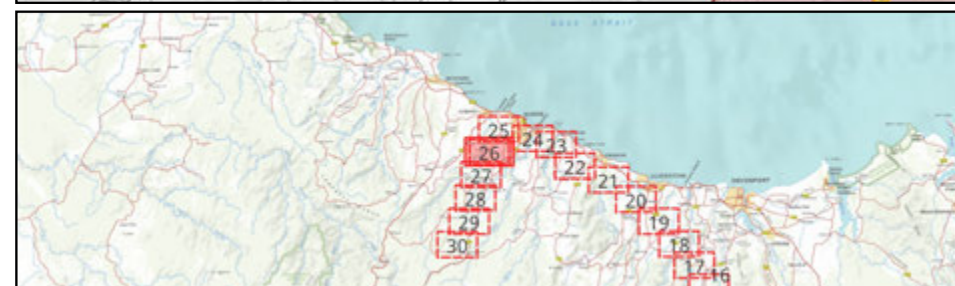


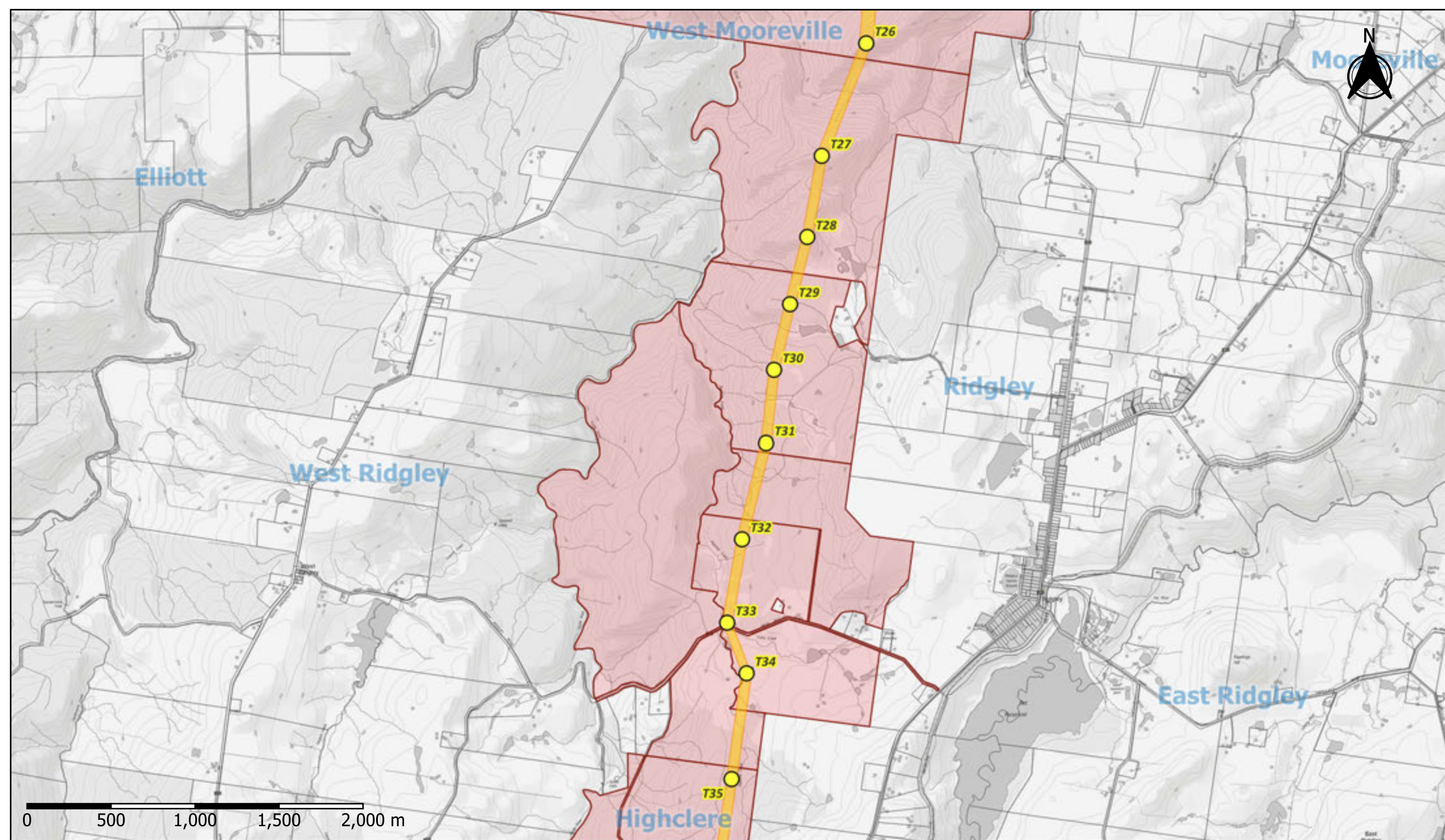


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North West Transmission Upgrades Project
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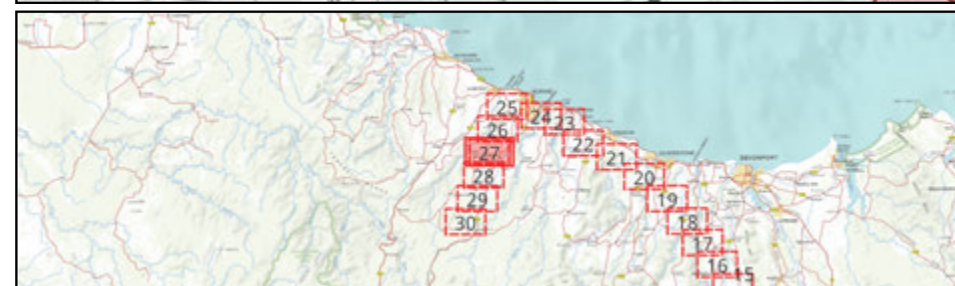
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West Ridgley

Ridgley

East Ridgley

Highclere

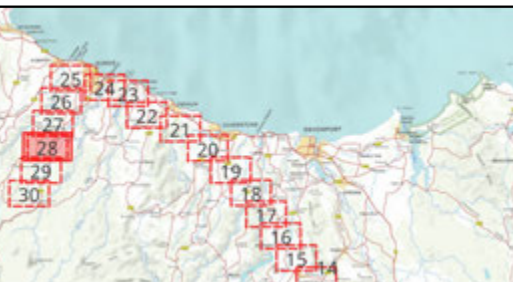
Tewkesbury

0 500 1,000 1,500 2,000 m

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Tewkesbury

Highclere

Hampshire

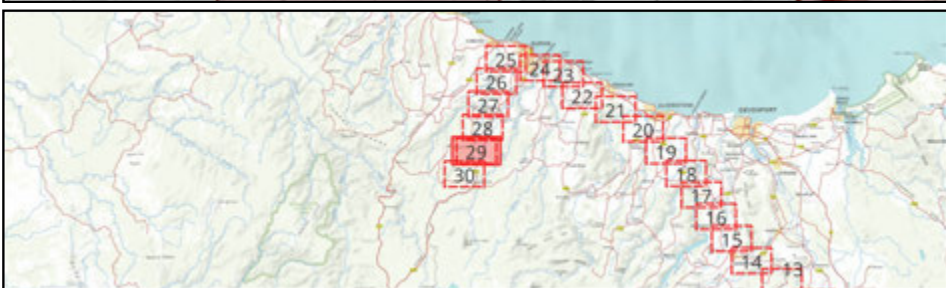
Upper Natone

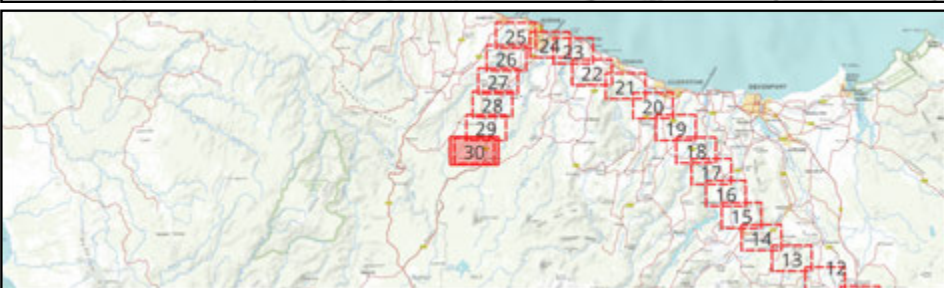
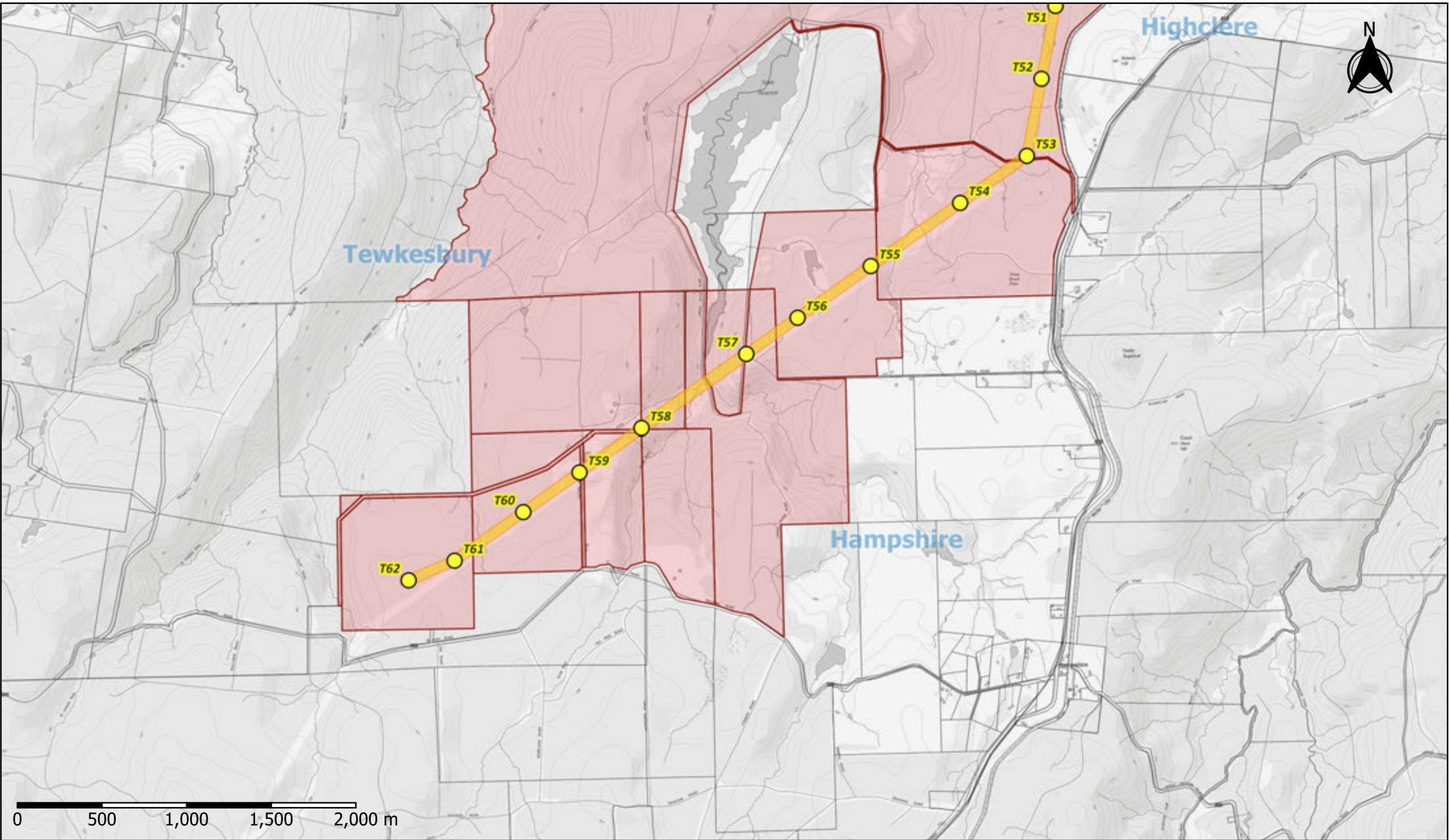
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