From: ECC, CT <ctecc@communities.tas.gov.au>
Sent: Thursday, 1 September 2022 8:55 AM
To: Planning
Subject: Letter from Secretary Communities Tas - Exhibition George Town Draft Local Provisions Schedule
Attachments: Letter from Secretary Communities Tas - Exhibition George Town Draft Local Provisions Schedule - August 2022.PDF; Attachment 1 - Letter Attachment 1 - Communities Tasmania Submission - George Town Local Provisions Schedule, August 2022.pdf; Attachment 2 - Letter Attachment 2 - Appendix A. ECOtas Natural Values As~eet (PID 7888516; CT 2407761; FVC06), George Town, Tasmania (9 August 2022).PDF

Importance: High

Good morning,

Please find attached letter from the Acting Secretary of Communities Tasmania.

Regards

Office of the Secretary
Communities Tasmania
Level 7, Marine Board Building, 1 Franklin Wharf, Hobart TAS 7000
www.communities.tas.gov.au

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Department of Communities Tasmania

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Tasmanian Government

Contact Officer: Richard Gilmour
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Our Reference: MIN/22/1916/1

Mr Shane Power
General Manager
George Town Council
PO Box 161
GEORGE TOWN TAS 7253
Email: Planning@georgetown.tas.gov.au

Dear Mr Power

Subject: Tasmanian Planning Scheme - draft George Town Local Provisions Schedule

Thank you for your invitation to comment on the draft George Town Local Provisions Schedule (LPS). Communities Tasmania has reviewed the draft LPS and supporting reports in respect of land owned by the Director of Housing.

Communities Tasmania considers the draft LPS including the zone and overlay mapping primarily a translation from the *George Town Interim Planning Scheme 2013 (GTIPS 2013)* in accordance with the Tasmanian Planning Commission's Guideline No. 1 Local Provision Schedule (LPS): zone and code application.

A detailed analysis and comparison revealed issues that require further consideration and discussion with Council and the Tasmanian Planning Commission. The matters are contained in detail in the attached submission.

Please do not hesitate to contact Richard Gilmour, Director – Community Infrastructure on 03 6166 3616 or at richard.gilmour@communities.tas.gov.au who can arrange for relevant officers to respond to any of the matters raised in this submission.

Yours sincerely

Anita Yan
Acting Secretary

31 August 2022

Attachments:

1. Communities Tasmania submission – draft George Town Local Provisions Schedule, August 2022 (MIN/22/1916/2)
2. Appendix A. ECOtas Natural Values Assessment of Potential Housing Development Area, North Street (PID 7888516; CT 240776/1; FVC06), George Town, Tasmania (9 August 2022) (MIN/22/1916/3

Attachment 1. Communities Tasmania Submission – draft George Town Local Provisions Schedule

Introduction

The Director of Housing holds properties under the *Homes Act 1935* for the purposes of providing social and affordable housing to Tasmanians most in need. Over 200 of these properties are within the George Town Local Government Area (LGA).

The Tasmanian Housing Register current demand figures[1] record 4 453 primary applicants[2] in need of housing. This need may be due to one or usually more than one of the following reasons: affordability, homelessness, safety issues (including domestic and family violence) and health and mobility issues.

Housing Register demand figures by LGA[1] indicate that 65 applicants are waiting for a home in the George Town municipality based on first suburb preference. These figures show George Town LGA has moderate demand for social and affordable housing in Tasmania, compared to LGAs overall.

There are changes proposed by the draft LPS that affect the potential for development on land held by the Director of Housing. Communities Tasmania is the government agency tasked with managing the land owned by the Director of Housing. Communities Tasmania has prepared the following representation on behalf of the Director of Housing.

1. Application of the Future Urban Zone
Title Reference 240776/1; PID 7888516, George Town

The Director of Housing (the Director) holds this property zoned Rural Resource in the George Town Interim Planning Scheme 2013 (GTIPS2013). The draft George Town Local Provisions Schedule (draft LPS) proposes to apply the Future Urban Zone (FUZ) to this land.

The purpose of the FUZ is to identify land intended for future urban use and development, ensuring that development does not compromise the potential for future urban use and development of the land and support the planned rezoning of land for urban use and development in sequence with the planned expansion of infrastructure.

The subject parcel has roughly 480 metres of existing road frontage and is serviced by existing sewer and water infrastructure. The application of the General Residential Zone (GRZ) would be more appropriate for this site given its characteristics, proximity to existing GRZ land and existing services.

[1] Tasmanian Housing Register Data at 31 July 2022
[2] A primary applicant may be an individual, a couple or representing a family with dependants.

Guideline No. 1[3] states that for the GRZ the following Zone Application Guidelines apply:

GRZ 1 The General Residential Zone should be applied to the main urban residential areas within each municipal area which:

(a) are not targeted for higher densities (see Inner Residential Zone); and

(b) are connected, or intended to be connected, to a reticulated water supply service and a reticulated sewerage system.

GRZ 2 The General Residential Zone may be applied to green-field, brown-field or grey-field areas that have been identified for future urban residential use and development if:

(a) within the General Residential Zone in an interim planning scheme;

(b) within an equivalent zone under a section 29 planning scheme; or

(c) justified in accordance with the relevant regional land use strategy, or supported by more detailed local strategic analysis consistent with the relevant regional land use strategy and endorsed by the relevant council; and

(d) is currently connected, or the intention is for the future lots to be connected, to a reticulated water supply service and a reticulated sewerage system.

Note: The Future Urban Zone may be used for future urban land for residential use and development where the intention is to prepare detailed structure/precinct plans to guide future development.

GRZ 3 The General Residential Zone should not be applied to land that is highly constrained by hazards, natural values (i.e. threatened vegetation communities) or other impediments to developing the land consistent with the zone purpose of the General Residential Zone, except where those issues have been taken into account and appropriate management put into place during the rezoning process

The Director submits that in accordance with GRZ 1 (a) & (b), the site is not targeted for higher densities and is connected to a reticulated water supply and reticulated sewerage system. Further, in accordance with GRZ 3, the land is not highly constrained by natural values or hazards (other than minimal amounts of Flood Prone Areas – see Figure 1 below) that impedes its development in a matter consistent with the zone purposes of the GRZ. For these reasons, the provisions of the GRZ should be applied to this site.

[3] Section 8A Guideline No. 1 Local Provisions Schedule (LPS): zone and code application (version 2.0, June 2018)

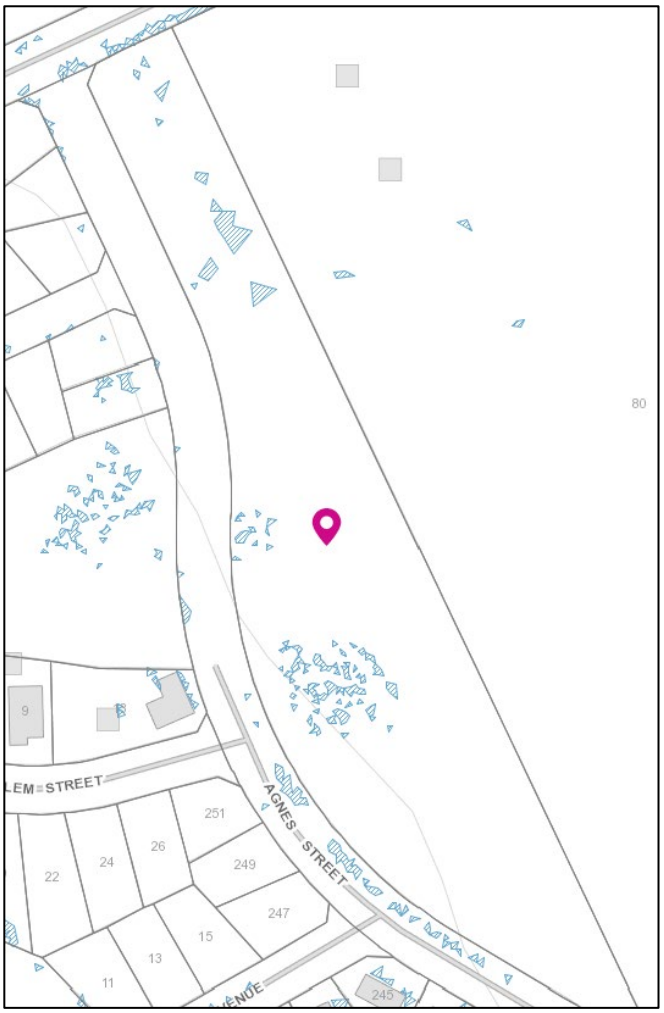

Figure 1 – Proposed Flood Prone Areas

2. Application of the Natural Assets Code - Priority Vegetation Area Overlay

Title Reference 240776/1; PID 7888516, George Town

The draft LPS introduces a Priority Vegetation Area (PVA) Overlay over the southern portion of the site, as shown in Figure 2 below. The Director requests that the George Town Council and the Tasmanian Planning Commission remove the application of the PVA from the land as a detailed local assessment of the site shows there is no priority vegetation present.

Figure 2 – Proposed Priority Vegetation Area Overlay

Guideline No. 1 states the priority vegetation area overlay is intended for native vegetation that:

- forms an integral part of a threatened native vegetation community as prescribed under Schedule 3A of the *Nature Conservation Act 2002*;
- is a threatened flora species;

- forms a significant habitat for a threatened fauna species; or
- has been identified as native vegetation of local importance.

Guideline No. 1 sets out the relevant criteria for application of the Natural Assets Code, and states the following in reference to the priority vegetation area overlay:

NAC 7 *The priority vegetation area overlay must include threatened native vegetation communities as identified in TASVEG Version 3 mapping, as published on the Department of Natural Resources and Environment's (DNRE) website and available on the LIST.*

NAC 8 *For the purposes of applying the priority vegetation area overlay to land containing threatened flora species, any areas mapped within the overlay should be derived from or based on the threatened flora data from the Natural Values Atlas as published DNER's website and available on the LIST.*

NAC 9 *In applying the priority vegetation area overlay for threatened flora species, the overlay map may include an area around recorded occurrences of threatened flora species to identify areas of potential occurrence based on field verification, analysis or mapping undertaken by, or on behalf of, the planning authority.*

NAC 10 *For the purposes of applying the priority vegetation area overlay to land containing significant habitat for threatened fauna species, any areas identified as significant habitat should be based on the threatened fauna data from the Natural Values Atlas, as published on DNER's website.*

NAC 11 *The priority vegetation area overlay may be based on field verification, analysis or mapping undertaken by, or on behalf of, the planning authority to:*

(a) address any anomalies or inaccuracies in the mapping and data in clauses NAC 7, NAC 8 and NAC 10 above; or

(b) provide more recent or detailed local assessment of the mapping and data in clauses NAC 7, NAC 8 and NAC 10 above.

The Director submits that in accordance with NAC 11(a) and (b), a detailed local assessment of the site has revealed inaccuracies in the TASVEG mapping and data. The *ECOtas Natural Values Assessment of Potential Housing Development Area, North Street (PID 7888516; CT 240776/1; FVC06), George Town, Tasmania (9 August 2022)* concludes there is no priority vegetation present at this site. Therefore, the priority vegetation overlay should be removed at this location. The report is included as Appendix A.

3. Application of the General Residential Zone

38 Main Road, George Town (Title Reference 6751/59, PID 6441579)

Owned by the Director of Housing, 38 Main Road is a 1 335m^2 site located at the intersection of Main Road and Franklin Street, George Town. As shown in Figure 3, the GTIPS2013 zones this land General Residential, and this zoning is appropriately proposed as a direct translation in the draft LPS.

However, Council indicated by email on the 22 August 2022 that they intend to make a representation to the LPS to have the Open Space Zone applied to this land.

Currently, the land has been developed as a public park, providing lawn, mature trees, and pedestrian access for public use.

The Director of Housing recognises the significance of this site to the community and therefore has no immediate plans to develop the site. However, to alter the zoning would both reduce the value of the land and restrict the future use and development options for the site.

Previous conversations with Council have indicated a land swap or similar arrangement may be proposed. Communities Tasmania on behalf of the Director of Housing will look forward to working with Council to facilitate an appropriate resolution of this issue.

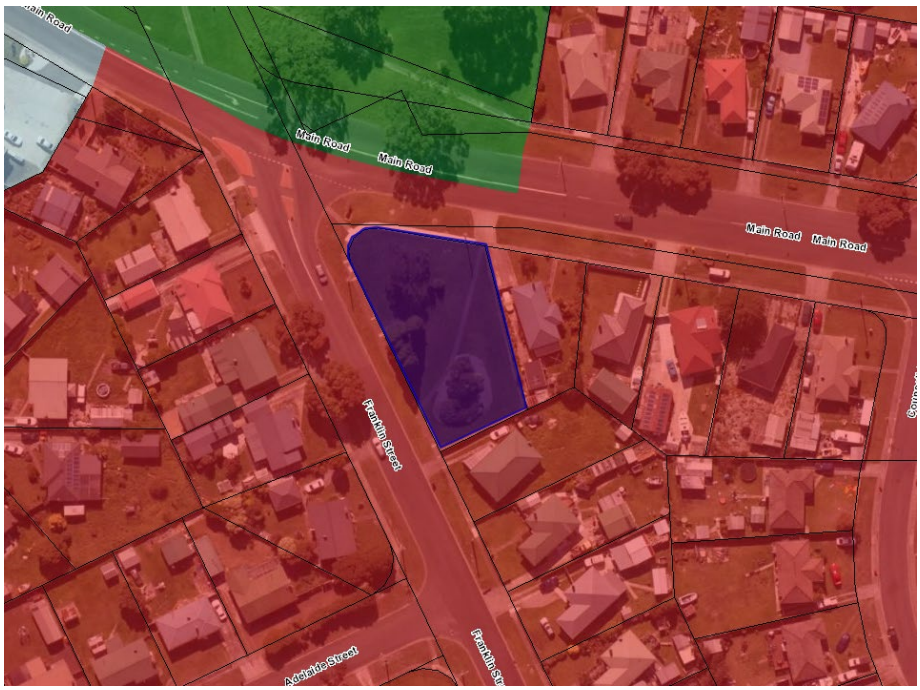

Figure 3 – GTIPS2013 applies the General Residential Zone to 38 Main Road, George Town.

NATURAL VALUES ASSESSMENT OF POTENTIAL HOUSING DEVELOPMENT AREA, NORTH STREET (PID 7888516; C.T. 240776/1; FVC06), GEORGE TOWN, TASMANIA

Environmental Consulting Options Tasmania (ECO*tas*) for Community Services, Infrastructure and Housing, Department of Communities Tasmania

9 August 2022

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CITATION

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ECO*tas* (2022). *Natural Values Assessment of Potential Housing Development Area, North Street (PID 7888516; C.T. 240776/1; FVC06), George Town, Tasmania.* Report by Environmental Consulting Options Tasmania (ECO*tas*) for Community Services, Infrastructure and Housing, Department of Communities Tasmania, 9 August 2022.

AUTHORSHIP

Field assessment: Mark Wapstra

Report production: Mark Wapstra

Habitat and vegetation mapping: Mark Wapstra

Base data for mapping: LISTmap

Digital and aerial photography: Mark Wapstra, LISTmap

ACKNOWLEDGEMENTS

Jeff Krafft (Department of Communities Tasmania) provided background information on the study area.

DISCLAIMER

Except where otherwise stated, the opinions and interpretations of legislation and policy expressed in this report are made by the author(s) and do not necessarily reflect those of the relevant agency. The client should confirm management prescriptions with the relevant agency before acting on the content of this report. This report and associated documents do not constitute legal advice.

Note that any reference to the Department of Primary Industries, Parks, Water & Environment (DPIPWE) now refers to the Department of Natural Resources and Environment Tasmania.

COVER ILLUSTRATION

View south from North Street into the study area.

Please note: the blank pages in this document are deliberate to facilitate double-sided printing.

CONTENTS

SUMMARY

General

The Tasmanian Department of Communities Tasmania (Community Services, Infrastructure and Housing) engaged Environmental Consulting Options Tasmania (ECO*tas*) to undertake an assessment of the natural values associated with a potential development area for housing, North Street (PID 7888516; C.T. 240776/1; FVC06), George Town, primarily to ensure that the requirements of the identified natural values are appropriately considered during further study planning under local, State and Commonwealth government approval protocols.

Site assessment

A natural values assessment of the study area was undertaken by Mark Wapstra (ECO*tas*) on 3 Aug. 2022.

Summary of key findings

Threatened flora

- No plant species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or Tasmanian *Threatened Species Protection Act 1995* (TSPA), are known from database information, or were detected as a consequence of field assessment, from the study area.

Threatened fauna

- No fauna species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or Tasmanian *Threatened Species Protection Act 1995* (TSPA), are known from database information, or were detected as a consequence of field assessment, from the study area.

Vegetation types

- The study area supports the following TASVEG mapping units:
  - agricultural land (FAG);
  - regenerating cleared land (FRG); and
  - extra-urban miscellaneous (FUM).
- None of these mapping units equate to native vegetation communities listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002* or to threatened ecological communities listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Weeds

- Two species of plant classified as declared weeds within the meaning of the Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*) were detected from the study area, as follows:
  - *Ulex europaeus* (gorse); and
  - *Rubus* sp. (blackberry).

- One species of plant considered as an environmental weed (author opinion) was detected from the study area; as follows:
  - *Coprosma repens* (mirror bush).

Priority vegetation

- The study area does not support any natural values that meet the intent of "priority vegetation" as defined by the Natural Assets Code of the *Tasmanian Planning Scheme*.

Recommendations

The recommendations provided below are a summary of those provided in relation to each of the natural values described in the main report. The main text of the report provides the relevant context for the recommendations.

Future rezoning to General Residential

The site does not support any natural values that should constrain the rezoning of the subject title to general residential pursuant to the *Tasmanian Planning Scheme – George Town*.

Priority Vegetation Area overlay

The site does not support any natural values that qualify as "priority vegetation" meaning that no part of the subject title should be subject to the Priority Vegetation Area overlay pursuant to the *Tasmanian Planning Scheme – George Town*.

Vegetation types

No recommendations are made as the site supports only modified land mapping units.

Threatened flora

No recommendations are made as the site does not support populations of threatened flora.

Threatened fauna

No recommendations are made as the site does not support populations of threatened fauna nor significant habitat of such species.

Weed and disease management

Any management actions should aim to minimise the risk of distributing these invasive weed species to other parts of the municipality, although it is recognised that these species already occur commonly in the greater area. The key management issue will be centred on treating vegetation debris and topsoil as "contaminated" with weed propagules and managing this product accordingly. This may include on- or off-site disposal and for on-site burial and/or burning. If off-site disposal is undertaken, this will need to be in accordance with municipal regulations and the provisions of the Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*) in relation to declared weeds.

INTRODUCTION

Purpose

The Tasmanian Department of Communities Tasmania (Community Services, Infrastructure and Housing) engaged Environmental Consulting Options Tasmania (ECO*tas*) to undertake an assessment of the natural values associated with a potential development area for housing, North Street (PID 7888516; C.T. 240776/1; FVC06), George Town, primarily to ensure that the requirements of the identified natural values are appropriately considered during further study planning under local, State and Commonwealth government approval protocols.

Scope

This report relates to:

- flora and fauna species of conservation significance, including a discussion of listed threatened species (under the Tasmanian *Threatened Species Protection Act 1995* and/or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*) potentially present, and other species of conservation significance/interest;
- vegetation types (forest and non-forest, native and exotic) present, including a discussion of the distribution, condition, extent, composition and conservation significance of each community;
- plant and animal disease management issues;
- weed management issues; and
- a discussion of some of the policy and legislative implications of the identified natural values.

This report follows the government-produced *Guidelines for Natural Values Surveys – Terrestrial Development Proposals* (DPIPWE 2015) in anticipation that the report (or extracts of it) may be used as part of various approval processes that may be required for works at the site.

The report format should also be applicable to other assessment protocols as required by the Commonwealth Department of Agriculture, Water and the Environment (for any referral/approval that may be required under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*), and under the local planning scheme (*Tasmanian Planning Scheme – Central Coast*).

Limitations

The ecological assessment was undertaken on 3 Aug. 2022. Many plant species have ephemeral or seasonal growth or flowering habits, or patchy distributions (at varying scales), and it is possible that some species were not recorded for this reason. However, every effort was made to sample the range of habitats present in the survey area to maximise the opportunity of recording most species present (particularly those of conservation significance). Late spring and into summer is usually regarded as the most suitable period to undertake most botanical assessments. While some species have more restricted flowering periods, a discussion of the potential for the site to support these is presented. In this case, however, given the long use of the study area as a paddock, a timed-targeted survey is not considered warranted.

The survey was also limited to vascular species: species of mosses, lichens and liverworts were not recorded. However, a consideration is made of threatened species (vascular and non-vascular)

likely to be present (based on habitat information and database records) and reasons presented for their apparent absence.

Surveys for threatened fauna were practically limited to an examination of "potential habitat" (i.e. comparison of on-site habitat features to habitat descriptions for threatened fauna), and detection of tracks, scats and other signs.

Permit

Any plant material was collected under DNRET (ex-DPIPWE) permit TFL 21138 (in the name of Mark Wapstra). Relevant data will be entered into DNRET's *Natural Values Atlas* database by the author. Some plant material may be lodged at the Tasmanian Herbarium by the author.

No vertebrate or invertebrate material was collected. A permit is not required to undertake the type of habitat-level assessment described herein.

STUDY AREA

Overview – cadastral details

The study area comprises the title of North Street, George Town, Tasmania (Figures 1-3), with the following cadastral details:

- PID: 50788851656636;
- C.T.: 240776/1; and
- LPI: FVC06.

LISTmap data indicates a computed area of 20,725.962 m^2 and a measured area of 20,790 m^2 (i.e. ca. 2.7 ha).

Current land tenure and other categorisations of the study area are as follows:

- Housing Tasmania as the authority and the Director-General of Housing and Construction the owner;
- George Town municipality, with the subject title zoned as Rural Resource pursuant to the *George Town Interim Planning Scheme 2013* (Figure 4), wholly subject to the Bushfire Prone Areas overlay;
- Flinders Bioregion, according to the IBRA 7 bioregions used by most government agencies.

Under the *Tasmanian Interim Planning Scheme – George Town*, the title is proposed to be zoned as Future Urban (Figure 5). Part of the title is also proposed to be subject to the Priority Vegetation Area overlay (Figure 6). A primary purpose of the present assessment and report is to provide information to facilitate a proposed rezoning to General Residential and to remove the Priority Vegetation Area overlay, based on updated natural values information.

Other site features

Physically, the title is located between North Street to the north, Agnes Street to the south and southwest, a cleared and residentially-occupied private title to the northeast, and new residential subdivision under construction to the southwest-west. Topographically, the title is gently undulating to flat terrain at ca. 20 m a.s.l.. Cadastral/topographic maps do not indicate any drainage features

within or immediately adjacent to the title, and none were observed on site assessment. The site is generally quite well-drained, albeit locally poorly-drained at the time of assessment due to several days of rain.

The title has been long-used for informal primary production with recent evidence of horse agistment. The boundary with North Street is well-fenced and gated. The boundary with 80 North Street to the northeast is also well-fenced. The remaining boundaries are unfenced or only partially fenced (e.g. southern section adjacent to Agnes Street). Power poles and wires dissect the title and these have been informally fenced for much of their length allowing some native plant species to persist. The area west of the powerlines is well-developed lush pasture, while the area to the east of the powerlines is less well-developed but still used as grazing land. Aerial imagery indicates that substantial parts of the western portion of the title were gorse infestations: at the time of assessment, these had all been removed and piled up with gorse attempting to re-establish through dense pasture grass. Refer to Plates 1-6.

Plate 1. (LHS) Remnant native shrubs at far southern end of powerlines and along boundary fence near Agnes Street

Plate 2. (RHS) Remnant native shrubs under powerlines in middle south of title

Plate 3. (LHS) Remnant native shrubs under powerlines at middle south of title with less frequently used pasture to the east

Plate 4. (RHS) Well-developed (but now unused) pasture in far southwest of title next to Agnes Street

Plate 5. (LHS) Looking south along the powerlines that separate the lusher pasture to the west and the more infrequently used pasture to the east

Plate 6. (RHS) Looking north along the powerlines that separate the lusher pasture to the west and the more infrequently used pasture to the east

Geologically, the study area is mapped at a 1:250,000 scale (Figure 7) as Quaternary (Cainozoic) "coastal sand and gravel" (geocode: Qps), and at a 1:25,000 scale as Quaternary (Cainozoic) "windblown and locally derived sand" (geocode: Qhw), confirmed by reference to soil types where the upper soil horizon had been exposed in adjacent subdivision works (Plates 7 & 8). The geology is mentioned because of its potential influence on the classification of vegetation and supporting threatened flora (and to a lesser extent threatened fauna, usually through the geological influence on vegetation structure and composition).

Plates 7 & 8. Sandy soils that characterise the study area (taken at western edge of title near new subdivision works)

LISTmap's Fire History layer (Figure 8) indicates that the eastern portion of the title was affected by an undetermined cause bushfire of 6 Mar. 2012 (Incident Number 192515; Fire name "Agnes Street") and the southern portion by undetermined cause bushfire of 20 Jun. 2019 (Incident Number 19000889; Fire name "Agnes Street"). Site assessment showed evidence of at least the most recent fire event in the form of the burnt strip of vegetation underneath the powerlines, and possibly the burnt, now pushed up, gorse.

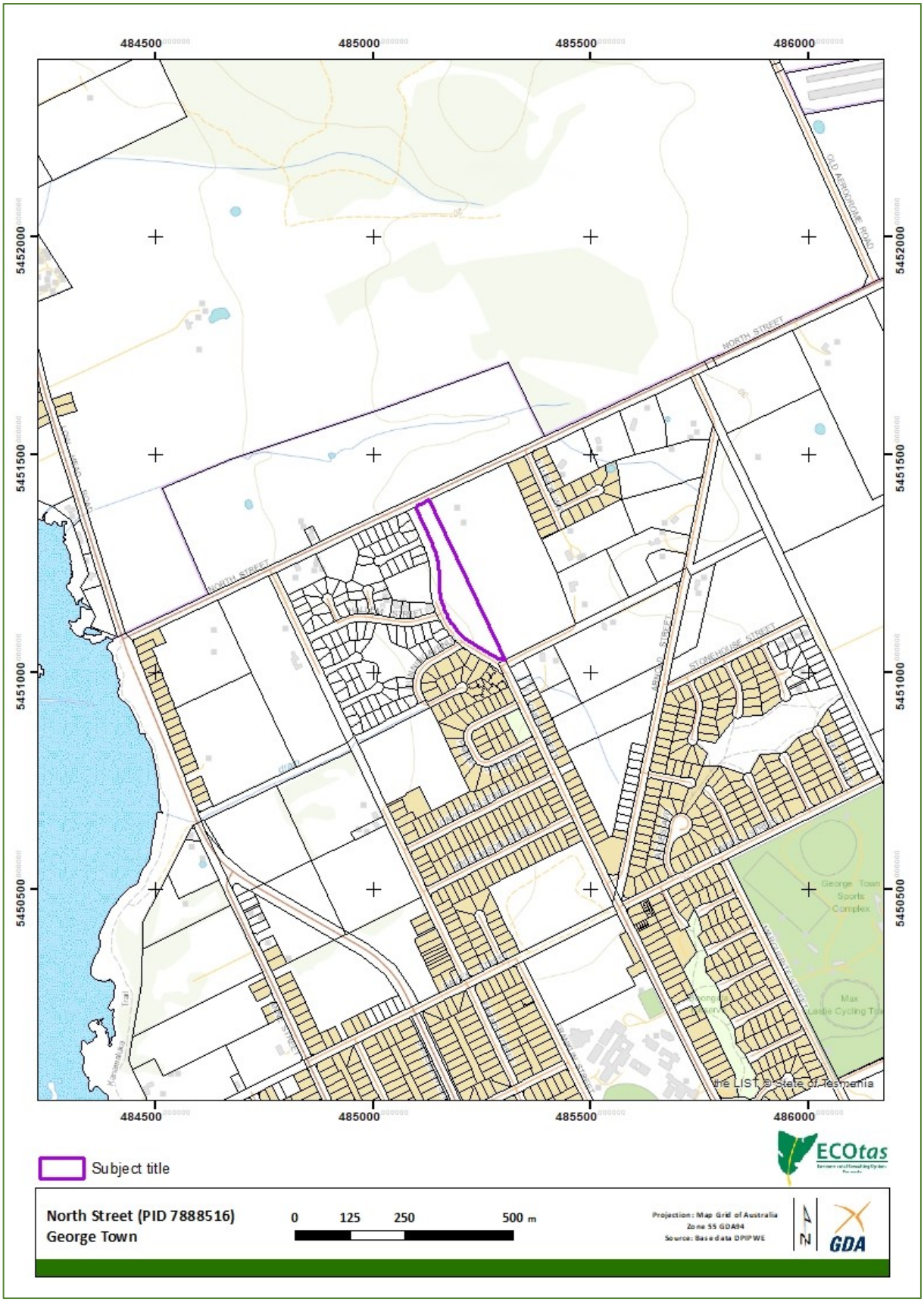

Figure 1. General location of study area

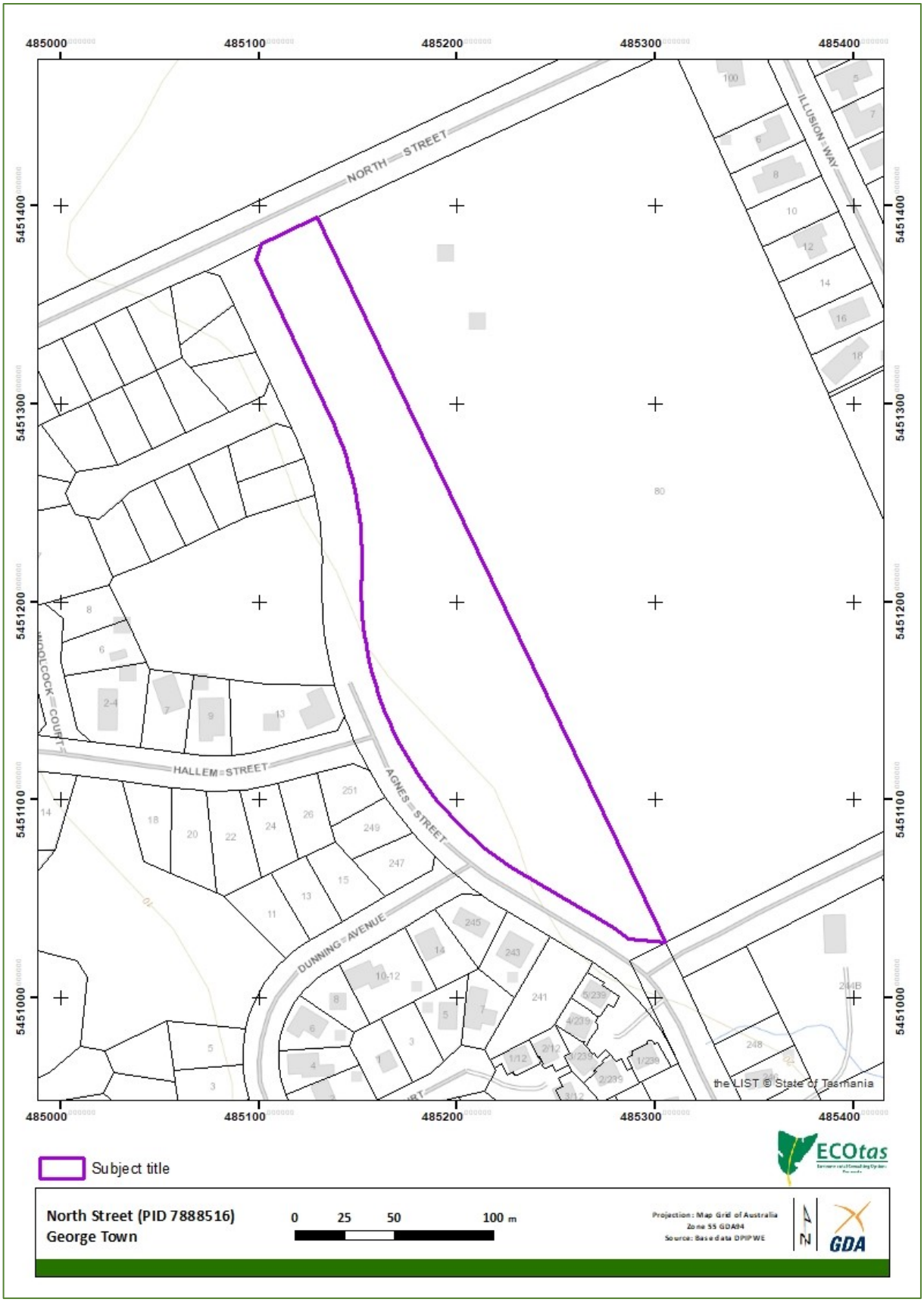

Figure 2. Detailed location of study area showing topographic and cadastral features

Figure 3. Detailed location of study area showing topographic, cadastral features and relatively recent aerial imagery (note the patches of gorse no longer show on this version)

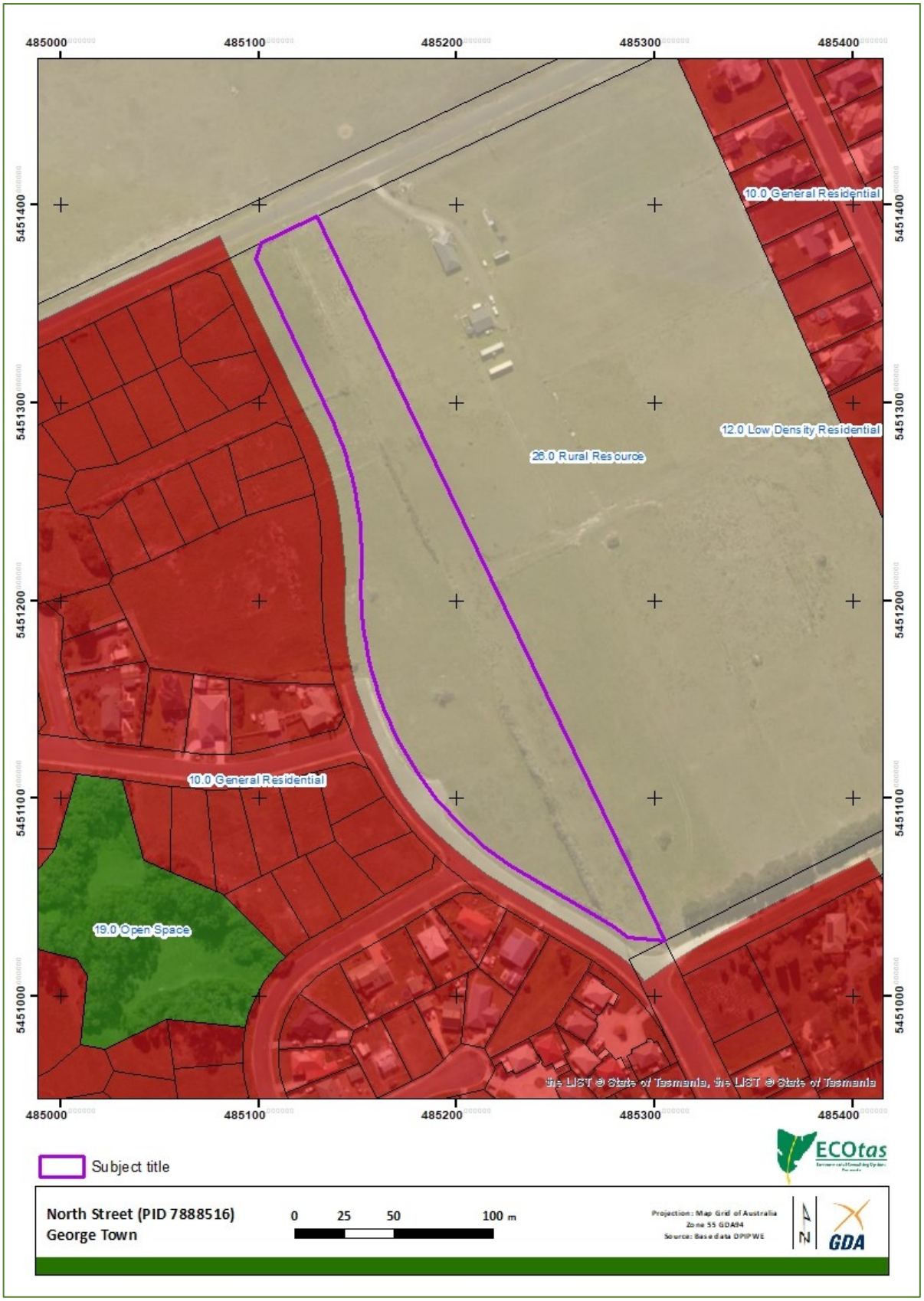

Figure 4. Current zoning of study area and surrounds pursuant to the *George Town Interim Planning Scheme 2013*

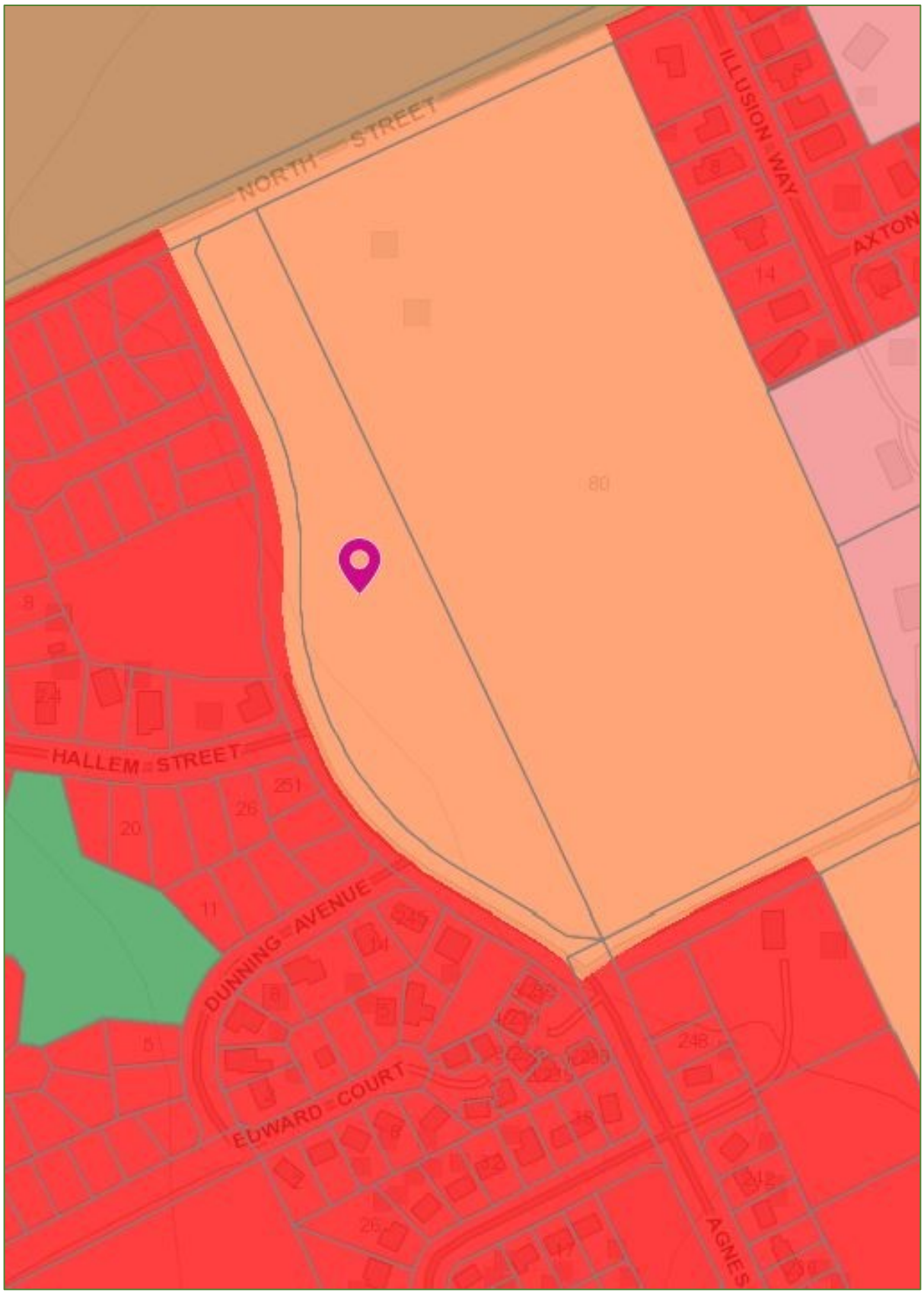

Figure 5. Proposed zoning of study area and surrounds pursuant to the *Tasmanian Planning Scheme – George Town*

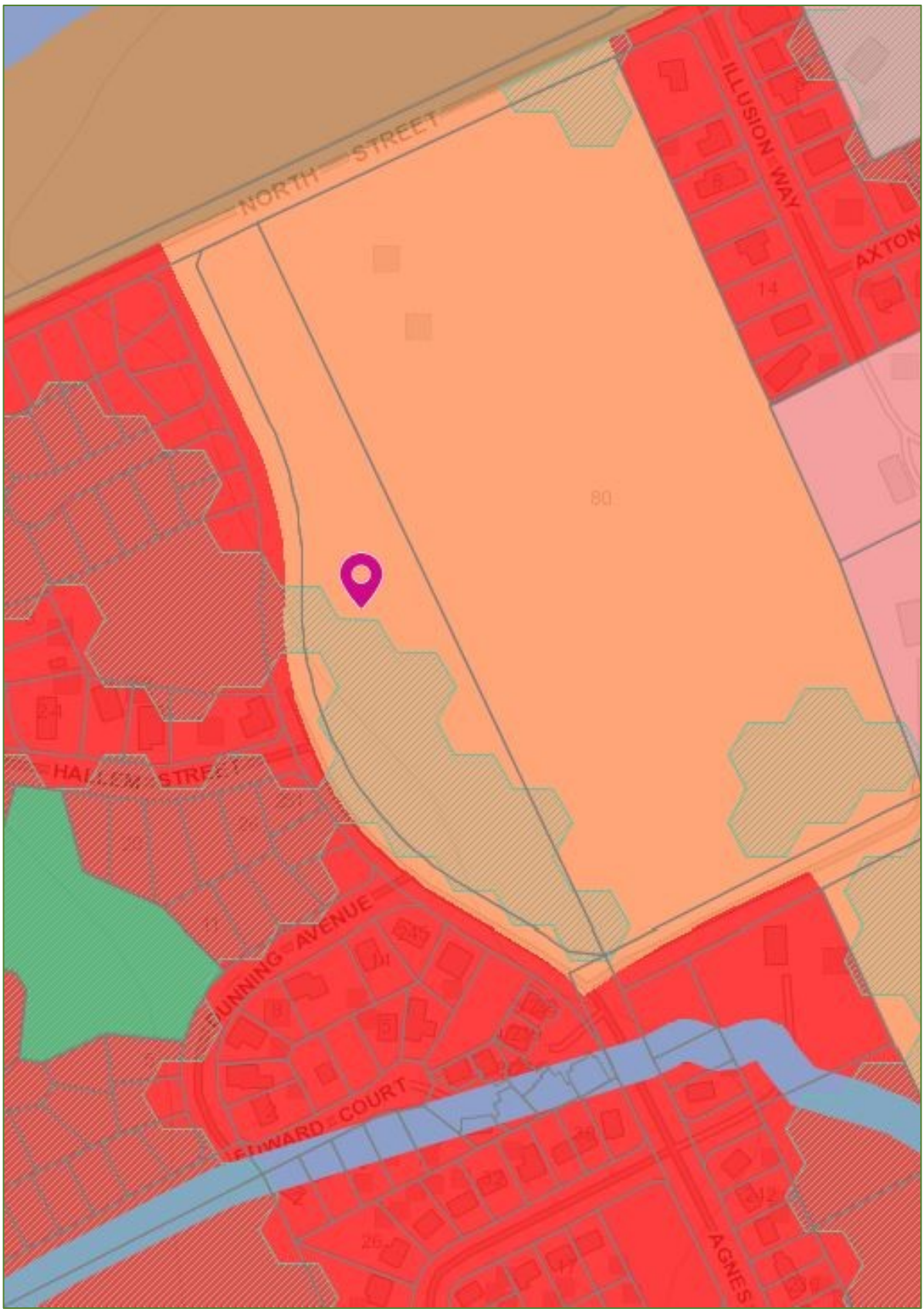

Figure 6. Proposed extent of Priority Vegetation Area overlay of study area and surrounds pursuant to the *Tasmanian Planning Scheme – George Town*

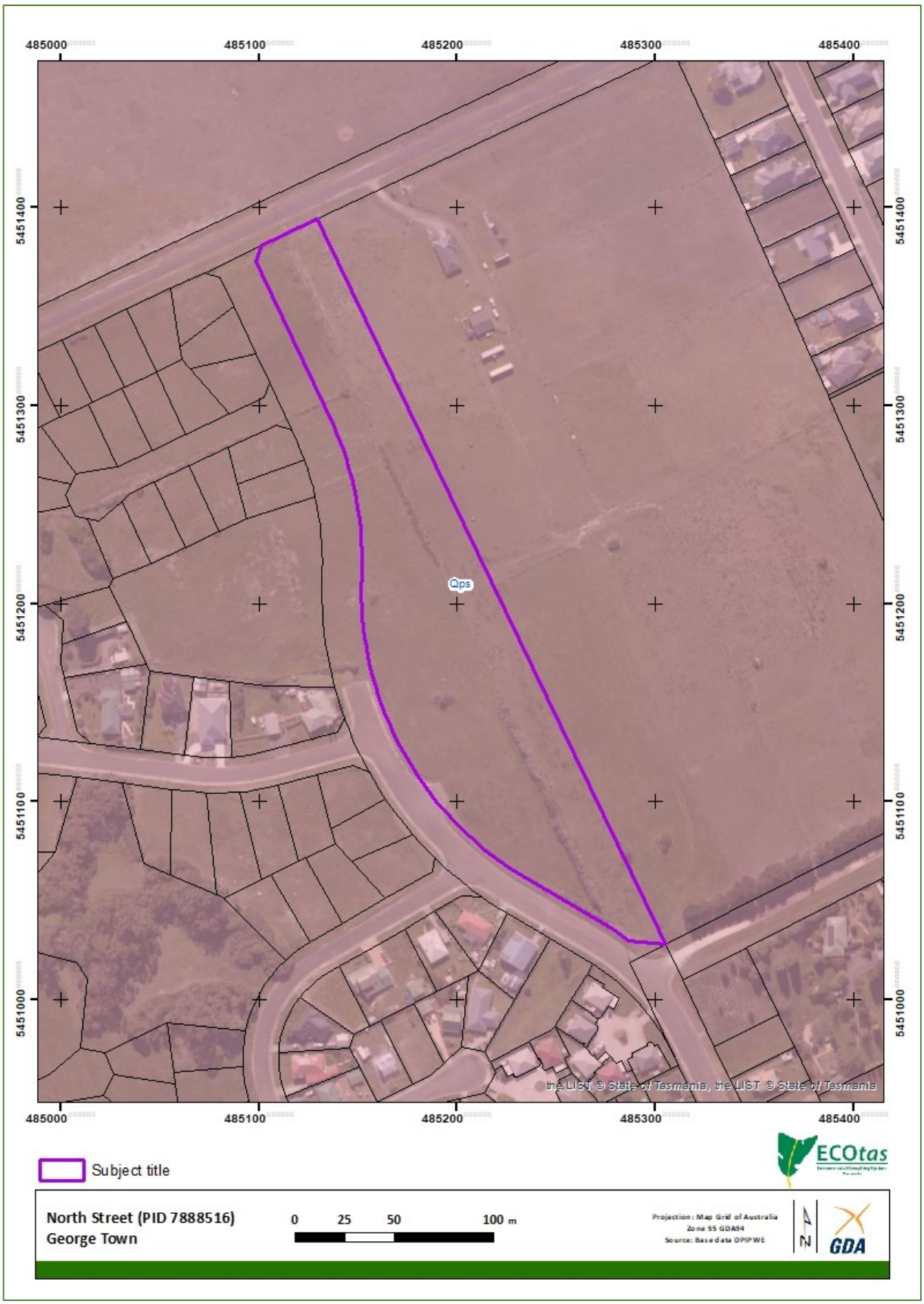

Figure 7. Geology (1:250,000) of study area and surrounds (refer to text for code)

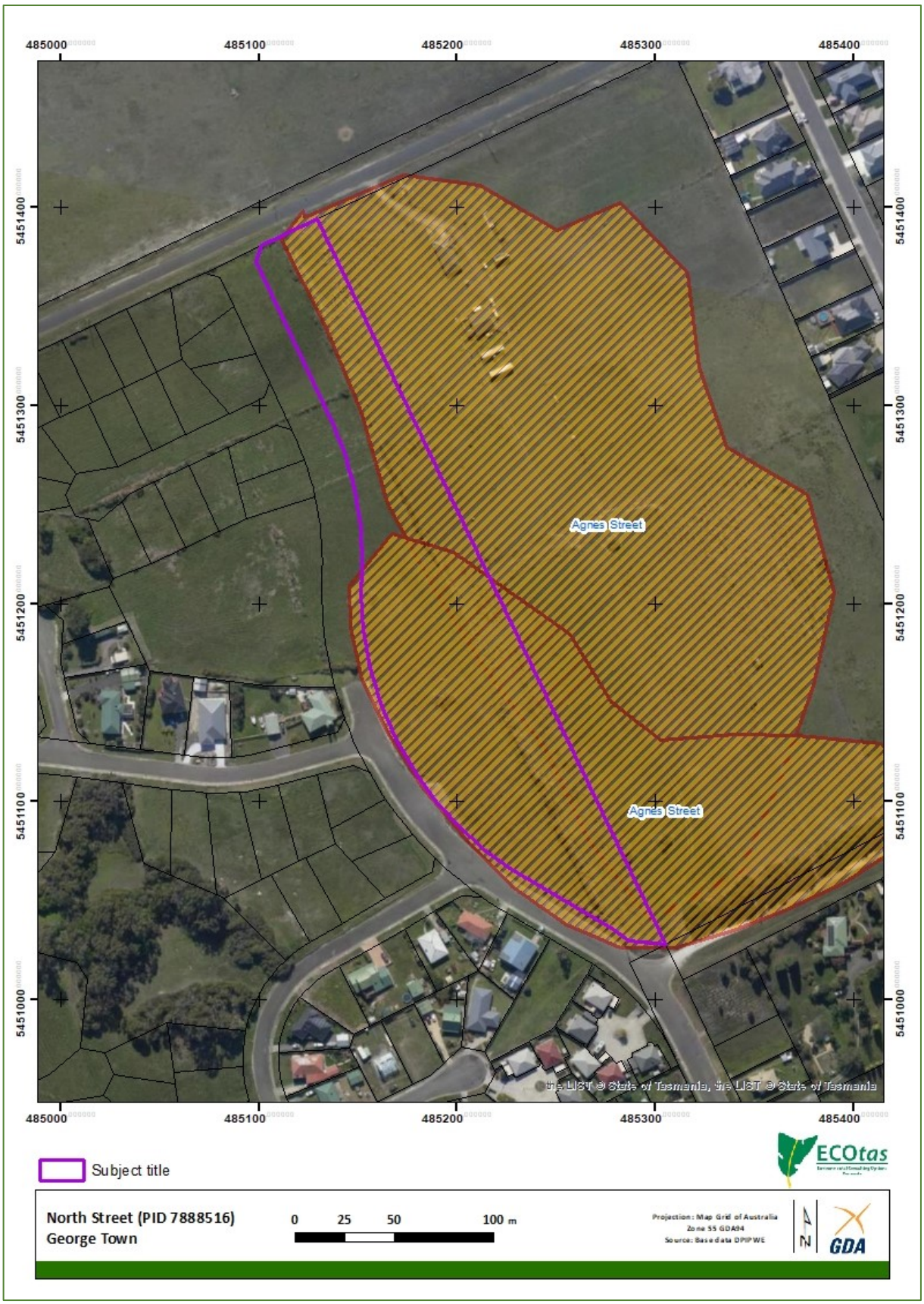

Figure 8. Fire History of study area and surrounds

METHODS

Nomenclature

All grid references in this report are in GDA94, except where otherwise stated.

Vascular species nomenclature follows de Salas & Baker (2022) for scientific names and Wapstra et al. (2005+) for common names. Fauna species scientific and common names follow the listings in the cited *Natural Values Atlas* report (DNRET 2022a).

Vegetation classification follows TASVEG 4.0, as described in *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation (*Kitchener & Harris 2013+).

Preliminary investigation

Available sources of previous reports, threatened flora records, vegetation mapping and other potential environmental values were interrogated. These sources include:

- Tasmanian Department of Natural Resources and Environment Tasmania's *Natural Values Atlas* records for threatened flora and fauna (GIS coverage maintained by the author current as at date of report);
- Tasmanian Department Natural Resources and Environment Tasmania's *Natural Values Atlas* report ECOtas_NorthStreet for a polygon defining the study area (centred on 485195mE 5451192mN), buffered by 5 km, dated 26 Jul. 2022 (DNRET 2022) – Appendix E;
- Forest Practices Authority's *Biodiversity Values Database* report, specifically the species' information for grid reference centroid 485195mE 5451192mN (i.e. a point defining the centre of the NVA report), buffered by 5 km and 2 km for threatened fauna and flora records, respectively, hyperlinked species' profiles and predicted range boundary maps, dated 26 Jul. 2022 (FPA 2022) – Appendix F;
- Commonwealth *Protected Matters Report* for a polygon defining the study area, buffered by 5 km, dated 26 Jul. 2022 (CofA 2022) – Appendix G;
- the TASVEG 3.0, 4.0 & Live vegetation coverages (as available through GIS coverage and via LISTmap);
- GoogleEarth and LISTmap aerial orthoimagery; and
- other sources listed in tables and text as indicated.

Field assessment

The natural values assessment was undertaken on 3 Aug. 2022.

Cadastral data uploaded to the iGIS application guided the in-field assessment, although most boundaries were defined by fences or otherwise obvious. Hand-held GPS (Garmin Oregon 600) was used to waypoint any natural values features.

Assessment was not limited in any significant manner with access from North and Agnes streets sand easily traversed forest vegetation.

For the record, the verges of North and Agnes streets were also assessed for the presence of natural values such as threatened flora to ensure that any future works that may require the use of the public road verges could take due account of such matters.

Vegetation classification

Vegetation was classified by waypointing vegetation transitions for later comparison to aerial imagery. The structure and composition of the vegetation types was described using a nominal 30 m radius plot at a representative site within the vegetation types, and compiling "running" species lists for the balance of the title.

Threatened flora

With reference to the threatened flora, the survey included consideration of the most likely habitats for such species. Further methods are not provided as no such species were detected.

Threatened fauna

Surveys for threatened fauna were largely limited to an examination of "potential habitat" (i.e. comparison of on-site habitat features to habitat descriptions for threatened fauna), and detection of tracks, scats and other signs.

Weed and hygiene issues

The study area was assessed with respect to plant species classified as declared weeds under the Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*), Weeds of National Significance (WoNS) or "environmental weeds" (author opinion and as included in *A Guide to Environmental and Agricultural Weeds of Southern Tasmania*, NRM South 2017).

The site was assessed with respect to potential impacts of plant and animal pathogens, by reference to habitat types and field symptoms.

FINDINGS

Vegetation types

Comments on TASVEG mapping

This section, which comments on the existing TASVEG mapping for the study area, is included to highlight the differences between existing mapping and the more recent mapping from the present study to ensure that any parties assessing land use proposals (via this report) do not rely on existing mapping. Note that TASVEG mapping, which was mainly a desktop mapping exercise based on aerial photography, is often substantially different to ground-truthed vegetation mapping, especially at a local scale. An examination of existing vegetation mapping is usually a useful pre-assessment exercise to gain an understanding of the range of habitat types likely to be present and the level of previous botanical surveys.

There are three relevant versions of TASVEG that can be considered as part of this review. TASVEG Live is the most up-to-date version, available online via LISTmap. It is generally very similar to

TASVEG 4.0, especially at a local lot-level scale, but can include localised and/or project-based updates that can be informative. TASVEG 3.0, the immediately preceding version of the vegetation mapping layer, is in theory superseded by TASVEG 4.0. However, examination of this layer can be useful because it was the primary source of information that was included in the Regional Ecosystem Model that guided the priority vegetation area overlay, at least in part, of the *Tasmanian Planning Scheme* in several municipalities, including George Town.

In the case of the present title, all versions of TASVEG are identical and map (Figure 9) the title and surrounds as agricultural land (TASVEG code: FAG). Residentially-developed areas including Agnes Street and some titles are mapped as urban areas (TASVEG code: FUR). This mapping recognises that long history of primary production use of cleared land in this area, appropriately subsuming narrow strips of vegetation with native species into the concepts of FAG and FUR.

Vegetation types recorded as part of the present study

Vegetation types have been classified according to TASVEG 4.0, as described in *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation* (Kitchener & Harris 2013+). Table 1 provides information on each of the vegetation mapping units identified from the study area, which are further described in images provided in Appendix A. Figure 10 indicates the revised vegetation mapping of the study area.

Table 1. Vegetation mapping units present in the study area

[conservation status: NCA – as per Schedule 3A of the Tasmanian *Nature Conservation Act 2002* (DNRET 2022b), using units described by Kitchener & Harris (2013+); EPBCA – as per the listing of ecological communities on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, relating to communities as described under that Act, but with equivalencies to TASVEG units]

TASVEG mapping unit (Kitchener & Harris 2013+)	**Conservation priority** NCA *EPBCA*	**Comments**
agricultural land (FAG)	not threatened *not threatened*	FAG is mapped between Agnes Street and the powerlines in the approximate middle of the title. This section of the title has much better developed pasture with dense grass and essentially no other plant species. Aerial imagery (e.g. Google Earth Historical) indicates that until relatively recently quite large patches were dominated by what appeared to be impenetrable thickets of gorse (*Ulex europaeus*), which would have been mappable as weed infestation (TASVEG code: FWU): these are now gone (perhaps burnt and then slashed) such that the whole area is now mapped as FAG. Note that FAG includes the line of *Melaleuca ericifolia* scrub beneath the powerlines and along the southern fence beside Agnes Street.
regenerating cleared land (FRG)	not threatened *not threatened*	FRG is mapped east-northeast of the powerlines up to the boundary with 80 North Street. This area is somewhat between FAG (and used for horse agistment and is frequently slashed) and FRG. The "FRG" component is scattered native graminoids (mainly sparse *Lomandra longifolia*) and shrubs. The latter includes heavily slashed/browsed *Melaleuca ericifolia*. Separately mapping this side of the powerlines as FRG rather than FAG simply reflects the scale of vegetation mapping being undertaken – at a broader level, the whole site is probably best simply mapped as FAG.
extra-urban miscellaneous (FUM)	not threatened *not threatened*	A very small area is mapped as FUM, where a driveway was constructed as part of the Agnes Street extension. Whether this is subsumed into FAG or mapped as part of FUR (as is Agnes Street under TASVEG) is of no consequence as following development, the whole title will be mappable as FUR.

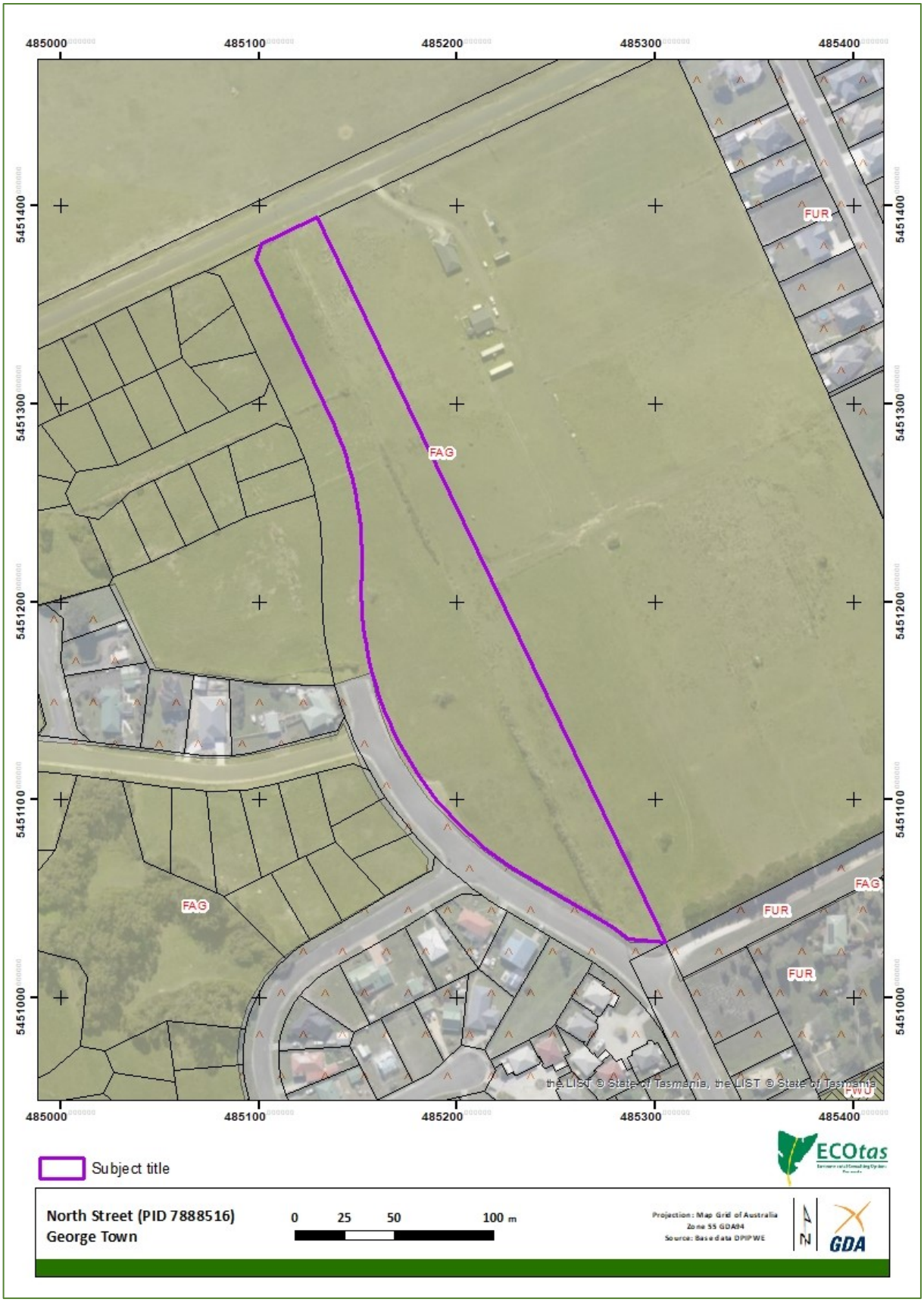

Figure 9. Existing TASVEG 4.0 vegetation mapping for the study area (refer to text for codes)

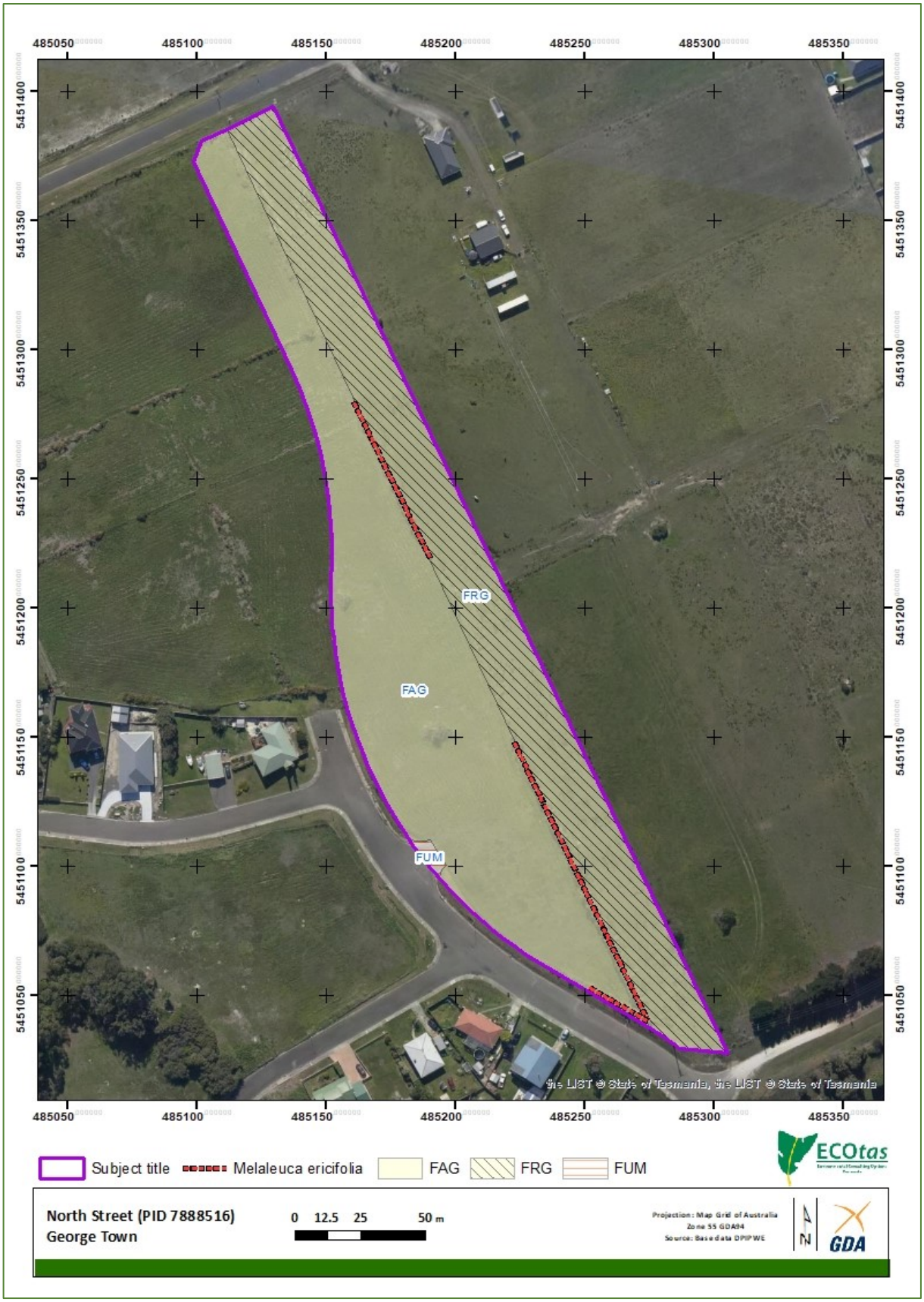

Figure 10. Revised vegetation mapping for the study area (refer to text for codes)

Conservation status of identified vegetation types

FAG, FRG & FUM do not equate to native vegetation communities listed as threatened under Schedule 3A of the Tasmanian *Nature Conservation Act 2002* or to threatened ecological communities listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Some further commentary is made regarding the strips of *Melaleuca ericifolia* scrub under the powerlines and along the fence with Agnes Street, as well as the regenerating *Melaleuca ericifolia* in the southern portion of the eastern section of the title. Current TASVEG mapping does not acknowledge this, mapping the whole area as FAG, which I believe is a correct interpretation. Under the descriptions of TASVEG mapping units (Kitchener & Harris 2013+), FAG is keyed out under the description of "rural land cleared and converted to crops, orchards or exotic grassland pasture; includes associated shelterbelts, houses and other agricultural infrastructure", with the "includes associated shelterbelts" highlighted as this somewhat reflects the expression of the *Melaleuca ericifolia* under the powerlines. The description of FAG includes this statement: "In situations where large areas of agricultural land have become heavily invaded by other species it is usually appropriate to distinguish these from FAG. Discernible patches of weeds such as *Ulex europaeus*, *Rubus fruticosus*, *Cirsium vulgare* and *Salix fragilis* are mapped as weed infestation (FWU). Large patches dominated by bracken are mapped as *Pteridium esculentum* fernland (FPF). Where native shrubs, rushes or sags provide a cover of more than 50% the community is classified as regenerating cleared land (FRG)" (Kitchener & Harris 2013+). This very much describes the situation within the subject title where *Melaleuca ericifolia* is periodically invading the pasture, getting "knocked down", regenerating in a cycle but never attaining a state where it could be properly described as a native vegetation mapping unit in its own right. That is, the area mapped as FRG and indicated as lines of *Melaleuca ericifolia* (Figure 10) are not reasonably classifiable as the TASVEG mapping unit *Melaleuca ericifolia* swamp forest (TASVEG code: NME). This is noted because NME equates to a native vegetation community (with the same name) listed as threatened under Schedule 3A of the Tasmanian *Nature Conservation Act 2002*. In this case, it is reiterated that the study area does not support this mapping unit.

Plant species

General information

A total of 45 vascular plant species were recorded from the study area (Appendix B), comprising 25 dicotyledons (including 18 naturalised species), 19 monocotyledons (including 14 naturalised species) and 1 pteridophyte (native). The very high proportion and abundance of naturalised species is notable. That is, this is a highly modified site.

Additional surveys at different times of the year may detect additional short-lived herbs and grasses but a follow-up survey is not considered warranted because of the low likelihood of species with a high priority for conservation management being present – this is almost wholly modified land.

Threatened flora species

No flora species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) are known from database information (Figure 11), or were detected as a

consequence of the field survey, from the study area. Note that this statement also applies to the verge of North Street ca. 50-100 m either side of the title, and to the verges of Agnes Street adjacent to the title.

Figure 11 indicates threatened flora species near to the study area and Table C1 (Appendix C) provides a listing of threatened flora from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

Threatened fauna

No fauna species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) are known from database information (Figure 12), or were detected as a consequence of the field survey, from the study area.

Figure 12 indicates threatened fauna records close to the study area and Table C1 (Appendix C) provides a listing of threatened fauna from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

Except in a highly opportunistic sense for wide-ranging and habitat generalists such as the Tasmanian devil, spotted-tailed quoll, eastern quoll, eastern barred bandicoot and wedge-tailed eagle, the study area is not considered to support significant potential habitat.

Other natural values

Weed species

Two plant species classified as declared weeds within the meaning of the Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*) were recorded from the study area, as follows (Figure 12):

- *Ulex europaeus* (gorse): scattered along fencelines, under the powerlines, through the area mapped as FRG (where it is one of the contributing species to this being classified as FRG and not FAG), and in the area mapped as FAG (where it once formed impenetrable patches); and
- *Rubus* sp. (blackberry): scattered along fencelines and under the powerlines.

One plant species regarded as an environmental weed (author opinion) was recorded from the study area, as follows (Figure 12):

- *Coprosma repens* (mirrorbush): scattered under the powerlines.

Any management actions should aim to minimise the risk of distributing these invasive weed species to other parts of the municipality, although it is recognised that these species already occur commonly in the greater area. The key management issue will be centred on treating vegetation debris and topsoil as "contaminated" with weed propagules and managing this product accordingly. This may include on- or off-site disposal and for on-site burial and/or burning. If off-site disposal

is undertaken, this will need to be in accordance with municipal regulations and the provisions of the Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*) in relation to declared weeds.

Several planning manuals provide guidance on appropriate management actions, which can be referred to develop site-specific prescriptions for any proposed works along the easement. These manuals include:

- Allan, K. & Gartenstein, S. (2010). *Keeping It Clean: A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens*. NRM South, Hobart;
- Rudman, T. (2005). *Interim* Phytophthora cinnamomi *Management Guidelines*. Nature Conservation Report 05/7, Biodiversity Conservation Branch, Department of Primary Industries, Water & Environment, Hobart;
- Rudman, T., Tucker, D. & French, D. (2004). *Washdown Procedures for Weed and Disease Control*. Edition 1. Department of Primary Industries, Water & Environment, Hobart; and
- DPIPWE (2015). *Weed and Disease Planning and Hygiene Guidelines - Preventing the Spread of Weeds and Diseases in Tasmania*. Department of Primary Industries, Parks, Water & Environment, Hobart.

Rootrot pathogen, *Phytophthora cinnamomi*

Phytophthora cinnamomi (PC) is widespread in lowland areas of Tasmania, across all land tenures. However, disease will not develop when soils are too cold or too dry. For these reasons, PC is not a threat to susceptible plant species that grow at altitudes higher than about 700 m or where annual rainfall is less than about 600 mm (e.g. Midlands and Derwent Valley). Furthermore, disease is unlikely to develop beneath a dense canopy of vegetation because shading cools the soils to below the optimum temperature for the pathogen. A continuous canopy of vegetation taller than about 2 m is sufficient to suppress disease. Hence PC is not considered a threat to susceptible plant species growing in wet sclerophyll forests, rainforests (except disturbed rainforests on infertile soils) and scrub e.g. teatree scrub (Rudman 2005; FPA 2009).

None of the vegetation types present are recognised as being susceptible to PC. No evidence of the pathogen was observed. Special management should not be required for the type of development that will occur.

Additional "Matters of National Environmental Significance" – Threatened Ecological Communities

CofA (2022) indicates that the following threatened ecological communities listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) are likely to, or may, occur within the area:

- Giant Kelp Marine Forests of South East Australia [Endangered];
- Lowland Native Grasslands of Tasmania [Critically Endangered];
- Tasmanian Forests and Woodlands dominated by Black Gum or Brookers Gum *(Eucalyptus ovata* / *E. brookeriana*) [Critically Endangered]; and
- Tasmanian White Gum (*Eucalyptus viminalis*) Wet Forest [Critically Endangered].

Existing vegetation mapping (Figure 8) and revised vegetation mapping (Figure 9) indicates that no such threatened ecological communities occur within or adjacent to the subject title, such that there are no implications under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* in relation to vegetation types.

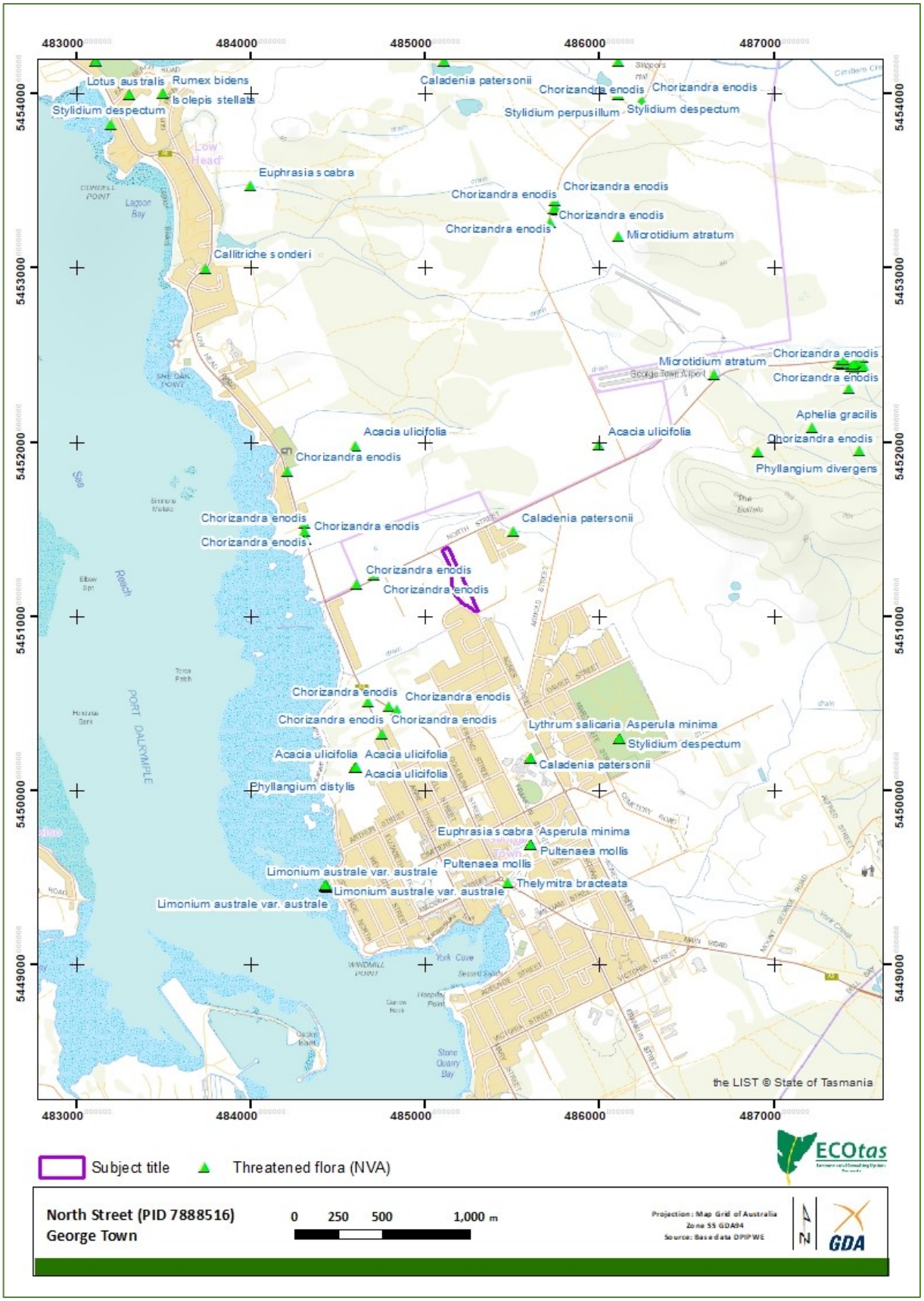

Figure 10a. Previous records of threatened flora close to the study area (overview)

Figure 10b. Previous records of threatened flora close to the study area (closer)

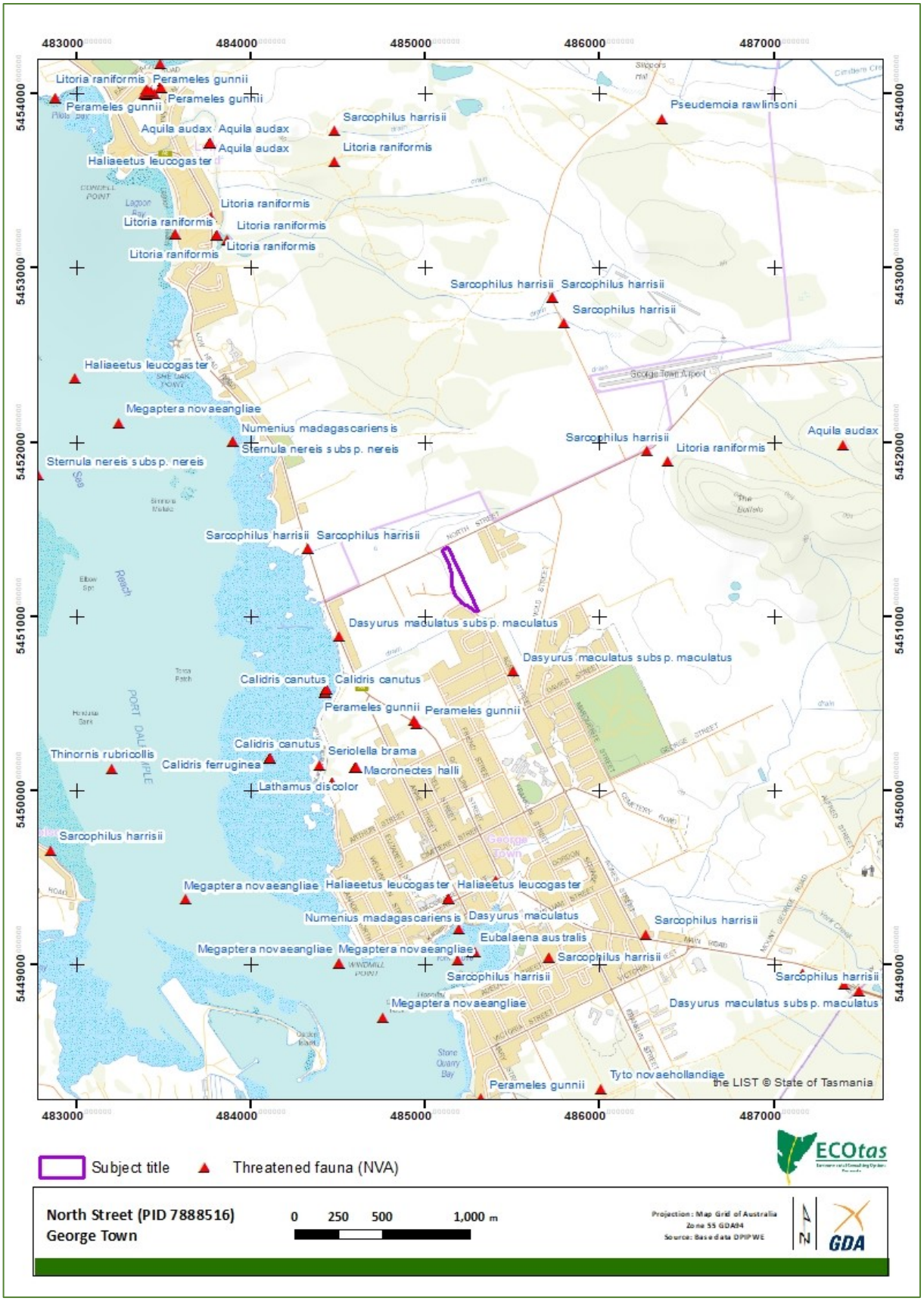

Figure 11a. Previous records of threatened fauna close to the study area (overview)

Figure 11b. Previous records of threatened fauna close to the study area (closer)

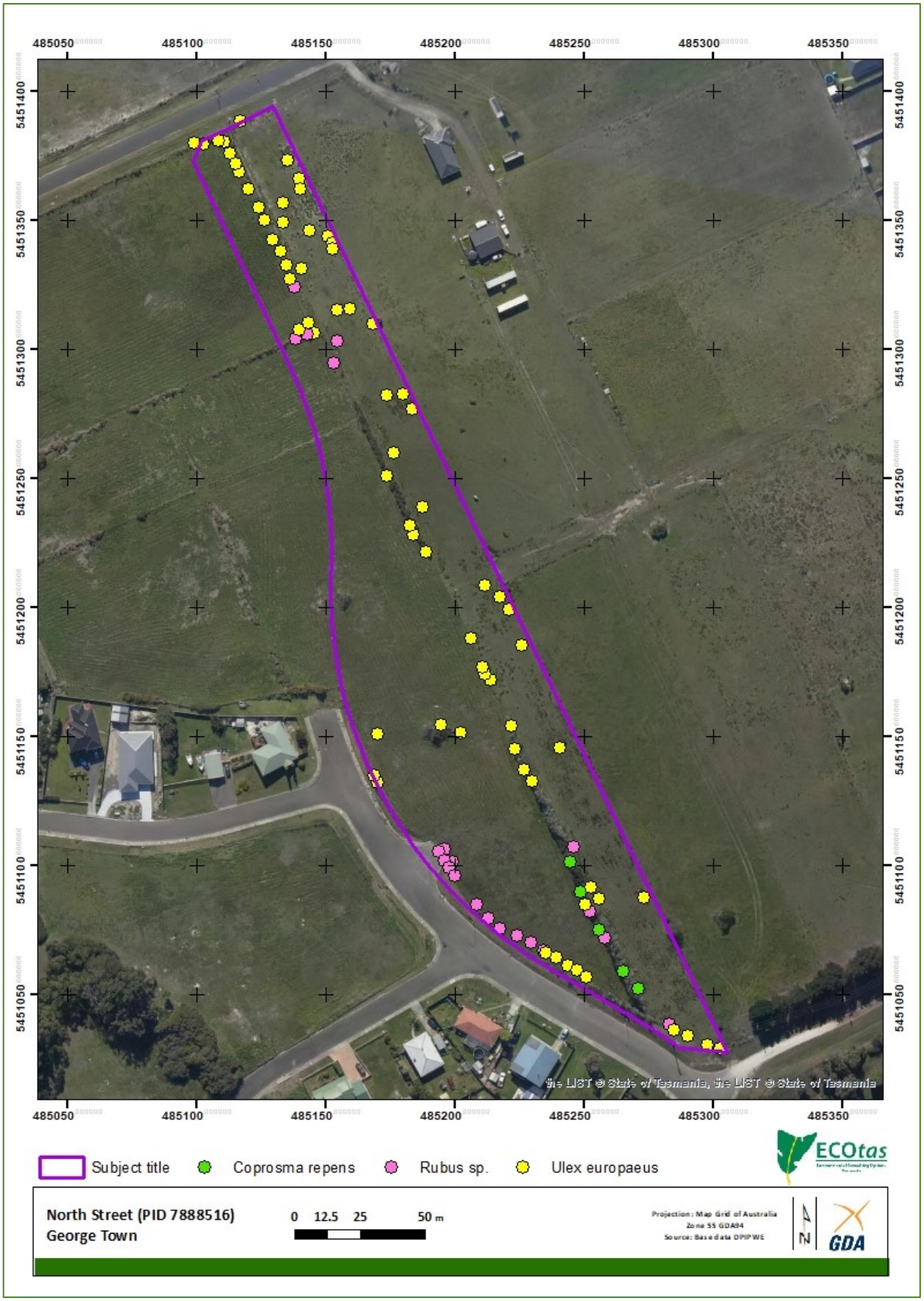

Figure 12. Distribution of declared and environmental weeds within study area

DISCUSSION

Summary of key findings

Threatened flora

- No plant species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or Tasmanian *Threatened Species Protection Act 1995* (TSPA), are known from database information, or were detected as a consequence of field assessment, from the study area.

Threatened fauna

- No fauna species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or Tasmanian *Threatened Species Protection Act 1995* (TSPA), are known from database information, or were detected as a consequence of field assessment, from the study area.

Vegetation types

- The study area supports the following TASVEG mapping units:
  - agricultural land (FAG);
  - regenerating cleared land (FRG); and
  - extra-urban miscellaneous (FUM).
- None of these mapping units equate to native vegetation communities listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002* or to threatened ecological communities listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Weeds

- Two species of plant classified as declared weeds within the meaning of the Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*) were detected from the study area, as follows:
  - *Ulex europaeus* (gorse); and
  - *Rubus* sp. (blackberry).
- One species of plant considered as an environmental weed (author opinion) was detected from the study area; as follows:
  - *Coprosma repens* (mirror bush).

Priority vegetation

- The study area does not support any natural values that meet the intent of "priority vegetation" as defined by the Natural Assets Code of the *Tasmanian Planning Scheme*.

Legislative and policy implications

Some commentary is provided below with respect to the key threatened species, vegetation management and other relevant legislation. Note that there may be other relevant policy instruments in addition to those discussed. The following information does not constitute legal

advice, not represent the views of relevant agencies, and it is recommended that independent advice is sought from the relevant agency/authority.

Tasmanian *Threatened Species Protection Act 1995*

Threatened flora and fauna on this Act are managed under Section 51, as follows:

> 51. Offences relating to listed taxa
>
> (1) Subject to subsections (2) and (3), a person must not knowingly, without a permit –
>
> (a) take, keep, trade in or process any specimen of a listed taxon of flora or fauna; or
>
> (b) disturb any specimen of a listed taxon of flora or fauna found on land subject to an interim protection order; or
>
> (c) disturb any specimen of a listed taxon of flora or fauna contrary to a land management agreement; or
>
> (d) disturb any specimen of a listed taxon of flora or fauna that is subject to a conservation covenant entered into under Part 5 of the *Nature Conservation Act 2002*; or
>
> (e) abandon or release any specimen of a listed taxon of flora or fauna into the wild.
>
> (2) A person may take, keep or process, without a permit, a specimen of a listed taxon of flora in a domestic garden.
>
> (3) A person acting in accordance with a certified forest practices plan or a public authority management agreement may take, without a permit, a specimen of a listed taxon of flora or fauna, unless the Secretary, by notice in writing, requires the person to obtain a permit.
>
> (4) A person undertaking dam works in accordance with a Division 3 permit issued under the *Water Management Act 1999* may take, without a permit, a specimen of a listed taxon of flora or fauna.

The simplest interpretation of this is that any activity that results in a specimen (i.e. individual) of listed flora or fauna being "knowingly taken" would require a permit to be issued through Conservation Assessments (Department of Natural Resources and Environment Tasmania), through a formal application process. Note that the Act does not make reference to "potential habitat" such that activities that result in loss of/disturbance to potential habitat (but not known sites) – which mainly refers to threatened fauna – would not require a permit.

No known sites of threatened flora or fauna will be impacted by any proposed development so a permit should be not required under this Act, irrespective of the scale, intensity or type of development proposed.

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

Under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* an action will require approval from the minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance.

Matters of national environmental significance considered under the EPBCA include:

- listed threatened species and communities
- listed migratory species;
- Ramsar wetlands of international importance;

- Commonwealth marine environment;
- world heritage properties;
- national heritage places;
- the Great Barrier Reef Marine Park;
- nuclear actions; and
- a water resource, in relation to coal seam gas development and large coal mining development.

The relevant Commonwealth agency provides a policy statement titled *Matters of National Environmental Significance: Significant Impact Guidelines 1.1* (CofA 2013, herein the *Guidelines*), which provides overarching guidance on determining whether an action is likely to have a significant impact on a matter protected under the EPBCA.

The *Guidelines* define a **significant impact** as:

> *"…an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts"*

and note that:

> *"…all of these factors [need to be considered] when determining whether an action is likely to have a significant impact on matters of national environmental significance".*

The *Guidelines* provide advice on when a significant impact may be likely:

> *"To be 'likely', it is not necessary for a significant impact to have a greater than 50% chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility.*
>
> *If there is scientific uncertainty about the impacts of your action and potential impacts are serious or irreversible, the precautionary principle is applicable. Accordingly, a lack of scientific certainty about the potential impacts of an action will not itself justify a decision that the action is not likely to have a significant impact on the environment".*

The *Guidelines* provide a set of Significant Impact Criteria, which are "intended to assist…in determining whether the impacts of [the] proposed action on any matter of national environmental significance are likely to be significant impacts". It is noted that the criteria are "intended to provide general guidance on the types of actions that will require approval and the types of actions that will not require approval…[and]…not intended to be exhaustive or definitive".

Listed ecological communities

The proposed development area does not support any such communities.

Threatened flora

The study area does not support populations of EPBCA-listed flora, nor significant potential habitat of such species.

Threatened fauna

The study area is unlikely to support populations of threatened fauna listed on the Act, except in a highly opportunistic sense for wide-ranging and habitat generalists such as the Tasmanian devil, spotted-tailed quoll, eastern quoll, eastern barred bandicoot and wedge-tailed eagle.

The *Guidelines* consider a "significant impact" to comprise loss that is likely to lead to a long-term decrease in the size of an important population of a species; reduce the area of occupancy of an important population; fragment an existing important population into two or more populations (unlikely); adversely affect habitat critical to the survival of a species; disrupt the breeding cycle of an important population; modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline; result in invasive species that are harmful to a threatened species becoming established in the threatened species' habitat; introduce disease that may cause the species to decline; or interfere substantially with the recovery of the species.

On the basis of the above review, I do not believe that any proposal on this site, irrespective of the scale, intensity or type of development proposed, will trigger a need for a referral under the Act.

Tasmanian *Forest Practices Act 1985* and associated *Forest Practices Regulations 2017*

The *Regulations* provide the following relevant circumstances in which a Forest Practices Plan (FPP) is not required.

> 4. Circumstances in which forest practices plan, &c., not required
>
> For the purpose of section 17(6) of the Act, the following circumstances are prescribed:
>
> (a) the harvesting of timber or the clearing of trees, with the consent of the owner of the land, if the land is not vulnerable land and –
>
> (i) the volume of timber harvested or trees cleared is less than 100 tonnes for each area of applicable land per year; or
>
> (ii) the total area of land on which the harvesting or clearing occurs is less than one hectare for each area of applicable land per year –
>
> whichever is the lesser;
>
> (j) the harvesting of timber or the clearing of trees on any land, or the clearance and conversion of a threatened native vegetation community on any land, for the purpose of enabling –
>
> (i) the construction of a building within the meaning of the *Land Use Planning and Approvals Act 1993* or of a group of such buildings; or
>
> (ii) the carrying out of any associated development –
>
> if the construction of the buildings or carrying out of the associated development is authorised by a permit issued under that Act.

On this basis, development subject to a planning permit issued under the relevant planning scheme should not require an FPP.

Tasmanian *Nature Conservation Act 2002*

Schedule 3A of the Act lists vegetation types classified as threatened within Tasmania. The study does not support any communities listed on the Act.

Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*)

Two plant species, *Ulex europaeus* (gorse) and *Rubus* sp. (blackberry), classified as declared weeds within the meaning of the Act are present within the study area. Under the Statutory Weed

Management Plans for these species (see www.nre.tas.gov.au), George Town municipality is classified as "Zone B" for management purposes. Under the Plans, "containment is the most appropriate management objective for Zone B municipalities which have problematic infestations but no plan and/or resources to undertake control actions at a level required for eradication" and "the management outcome for Zone B municipalities is ongoing prevention of the spread of the species from existing infestations to areas free or in the process of becoming free of the species".

As such, any management actions should aim to minimise the risk of distributing these invasive weed species to other parts of the municipality, although it is recognised that these species already occur commonly in the greater area. The key management issue will be centred on treating vegetation debris and topsoil as "contaminated" with weed propagules and managing this product accordingly. This may include on- or off-site disposal and for on-site burial and/or burning. If off-site disposal is undertaken, this will need to be in accordance with municipal regulations and the provisions of the Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*) in relation to declared weeds.

Tasmanian *Land Use Planning and Approvals Act 1993*

While the title is currently zoned as Rural Resource (Figure 4) pursuant to the *George Town Interim Planning Scheme 2013*, and is proposed to be zoned as Future Urban pursuant to the *Tasmanian Planning Scheme – George Town* (Figure 5), the proposal is to apply for the land to be rezoned as General Residential pursuant to the *Tasmanian Planning Scheme – George Town* to facilitate housing development. There are no natural values present that should constrain this rezoning proposal.

Part of the title is proposed to be subject to the Priority Vegetation Area overlay (Figure 5) pursuant to the *Tasmanian Planning Scheme – George Town*. Initial assessments by staff of the Department of Communities Tasmania indicated that the rationale for the proposed overlay was challenging to understand, given the status of the site as a paddock with powerlines and weeds. This was the impetus for the present assessment and report i.e. review the natural values present and determine the veracity of the proposed overlay.

Prior to the proposed application of the Priority Vegetation Area overlay, the study area and surrounds was not subject to any "natural values" overlays (this would have been called the Priority Habitat overlay pursuant to the *George Town Interim Planning Scheme 2013*). Based on available TASVEG mapping, examination of aerial imagery and records of threatened flora and fauna, the absence of the overlay appears to be wholly appropriate. It is important to try to understand the rationale for the shift between no overlay being present and now a significant proportion of the title being subject to the overlay.

Examination of the *Priority Vegetation Report* for the title (GTC 2022) indicates that the overlay is apparently explained by the presence of "Threatened Fauna and Significant Habitat", specifically allocated because of the glossy grass skink (*Pseudemoia rawlinsoni*). Potential habitat of this species is described as "wetlands and swampy sites (including grassy wetlands, teatree swamps and grassy sedgelands), and margins of such habitats" (FPA 2022). Available information would not have indicated these habitat types to be present. The Regional Ecosystem Model (REM) used to develop the Priority Vegetation Area overlay indicates that this variable has the data source as "NVA records combined with REM point-based modelling rules" and "habitat-based models" and the reliability is indicated as "variable". In this case, it appears that the model has erroneously indicated quite extensive areas of paddock and housing as "significant habitat" for the glossy grass skink, with the Priority Vegetation Area overlay extending across large areas of residential titles. Examination of database records of the species suggests a broad distribution represented by a relatively small number of point locations (Figure 13). While I am not an expert in species' modelling per se, in my experience the widespread distribution of limited records, many with quite

low precision, should preclude development of a sensible and useful model. There is a single database record from the greater George Town-Low Head area (Figure 14), which is by a reliable observer (S. Fearn, 28 Dec. 2007, ± 5 m) with the location clearly showing as being from an area of native vegetation on low-lying drainage-impeded terrain (Figure 15) i.e. from expected habitat. This species is almost certainly under-recorded and much more widespread than indicated by database records, with its conservation status (rare on the Tasmanian *Threatened Species Protection Act 1995*) somewhat dubious (S. Fearn pers. comm.). In my opinion, using records of this species to inform the development of the Priority Vegetation Area overlay was highly inappropriate.

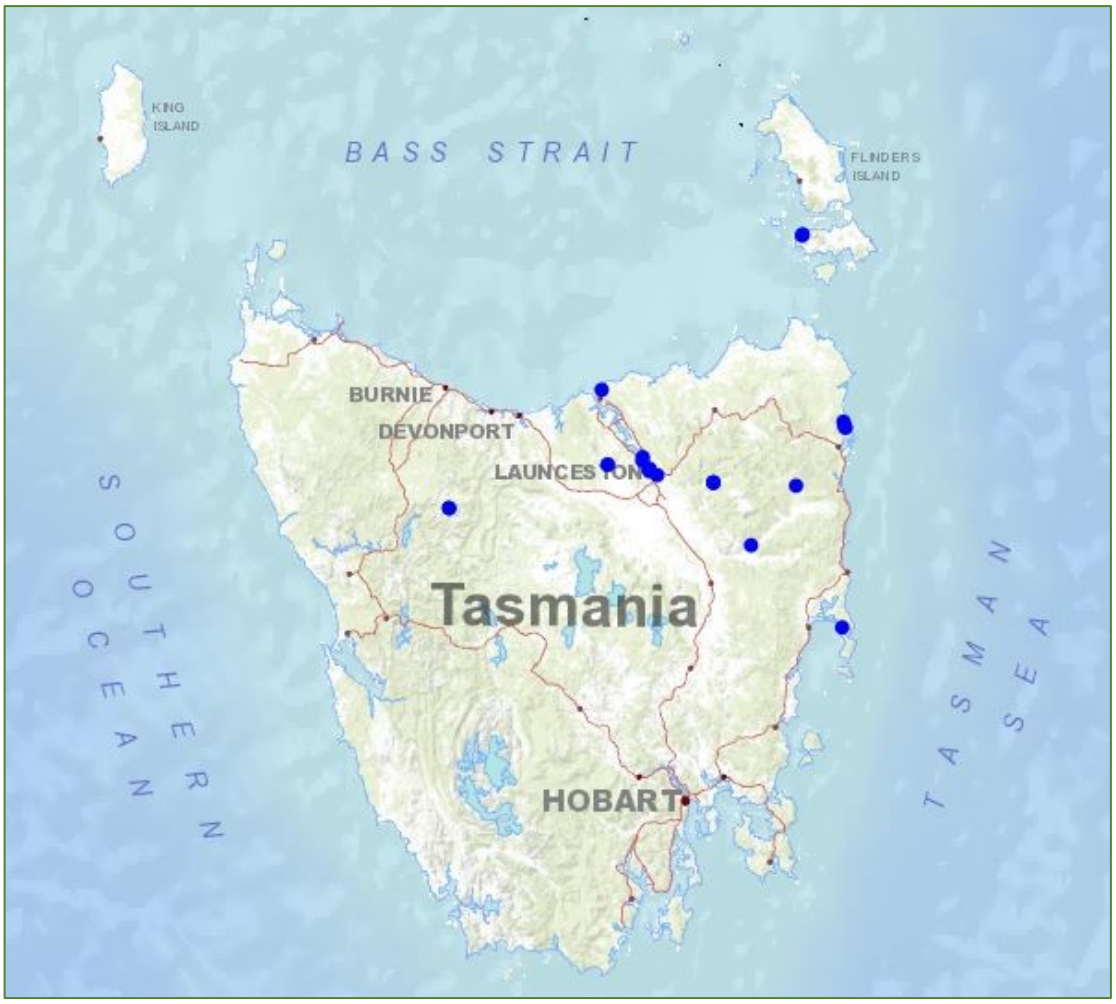

Figure 13. Statewide distribution of *Pseudemoia rawlinsoni* (glossy grass skink) [source: *Natural Values Atlas*, 17 Jul. 2022]

In my opinion, it was never the intention of the REM to create an "absolute" Priority Vegetation Area overlay. For example, the *Priority Vegetation Report* (GTC 2022) for this site in relation to the "significant habitat" variable clearly indicates that for management purposes to "check species observation source", "check data on habitat and local context" and "potentially require on-ground field verification". These actions have now been undertaken and the site is confirmed as not supporting potential habitat of the indicated species (glossy grass skink) in any reasonable sense.

Figure 14. Single database location of *Pseudemoia rawlinsoni* (glossy grass skink) from the greater George Town-Low Head area [source: *Natural Values Atlas*, 17 Jul. 2022]

Figure 15. Single database location of *Pseudemoia rawlinsoni* (glossy grass skink) from the greater George Town-Low Head area showing aerial imagery and terrain [source: *Natural Values Atlas*, 17 Jul. 2022]

In the absence of the value that generated the proposed Priority Vegetation Area overlay, it is recommended that the overlay be withdrawn.

A logical question then arises, which is whether any part of the subject title should be subject to the Priority Vegetation Area overlay for reasons other than the glossy grass skink. Under the Natural Assets Code of the *Tasmanian Planning Scheme*, "priority vegetation" is defined as:

At this point, however, it is worth discussing the classification of the site with respect to the intention of the *Scheme*'s definition of "priority vegetation", which is:

C7.3 Definition of Terms

C7.3.1 In this code, unless the contrary intention appears:

priority vegetation

means native vegetation where any of the following apply:

(a) it forms an integral part of a threatened native vegetation community as prescribed under Schedule 3A of the *Nature Conservation Act 2002*;

(b) is a threatened flora species;

(c) it forms a significant habitat for a threatened fauna species; or

(d) it has been identified as native vegetation of local importance.

Site assessment indicates that the project site is wholly mapped as modified land TASVEG mapping units (FAG, CFRG, FUM) and none of the site can be construed in any manner as mapped as native vegetation communities listed as threatened under Schedule 3A of the *Nature Conservation Act 2002*, which means that the site cannot meet the intent of "priority vegetation" under C7.3.1(a).

Site assessment indicates that the project site site does not support threatened flora, which means that the site cannot meet the intent of "priority vegetation" under C7.3.1(b).

Under the Code, a "significant habitat" is defined as:

> means the habitat within the known or core range of a threatened fauna species, where any of the following applies:
>
> (a) is known to be of high priority for the maintenance of breeding populations throughout the species' range; or
>
> (b) the conversion of it to non-priority vegetation is considered to result in a long-term negative impact on breeding populations of the threatened fauna species.

While the project site is within the "known or core range" (noting the *Scheme* nor Code do not define these terms) of threatened fauna, there is no reasonable manner in which the site could be construed to meet the intent of being a "high priority for the maintenance of breeding populations throughout the species' range" and/or where the "conversion of it to non-priority vegetation is considered to result in a long-term negative impact on breeding populations of the threatened fauna species". That is, the site does not support significant habitat for threatened fauna, which means that the site cannot meet the intent of "priority vegetation" under C7.3.1(c).

I am not aware that any part of the site has been "identified as native vegetation of local importance", noting that this cannot simply refer to a site subject to the Priority Vegetation Area overlay as that would be circular argument based on false logic (given that the basis for the overlay through the Regional Ecosystem Model acknowledges the need to ground-truth all modelling), which means that the site cannot meet the intent of "priority vegetation" under C7.3.1(d).

It is clear by this review that no part of the subject title should be reasonably considered to support "priority vegetation" and therefore should not be subject to the Priority Vegetation Area overlay.

Recommendations

The recommendations provided below are a summary of those provided in relation to each of the natural values described in the main report. The main text of the report provides the relevant context for the recommendations.

Future rezoning to General Residential

The site does not support any natural values that should constrain the rezoning of the subject title to general residential pursuant to the *Tasmanian Planning Scheme – George Town*.

Priority Vegetation Area overlay

The site does not support any natural values that qualify as "priority vegetation" meaning that no part of the subject title should be subject to the Priority Vegetation Area overlay pursuant to the *Tasmanian Planning Scheme – George Town*.

Vegetation types

No recommendations are made as the site supports only modified land mapping units.

Threatened flora

No recommendations are made as the site does not support populations of threatened flora.

Threatened fauna

No recommendations are made as the site does not support populations of threatened fauna nor significant habitat of such species.

Weed and disease management

Any management actions should aim to minimise the risk of distributing these invasive weed species to other parts of the municipality, although it is recognised that these species already occur commonly in the greater area. The key management issue will be centred on treating vegetation debris and topsoil as "contaminated" with weed propagules and managing this product accordingly. This may include on- or off-site disposal and for on-site burial and/or burning. If off-site disposal is undertaken, this will need to be in accordance with municipal regulations and the provisions of the Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*) in relation to declared weeds.

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APPENDIX A. Annotated images of vegetation types from study area

Plates A1 & A2. Examples of FAG (southern portion)

Plates A3-A6. Examples of FAG and line of *Melaleuca ericifolia* under powerlines

Plates A7-A10. Further examples of FAG (northern portion)

Plate A11. (LHS) Verge of North Street adjacent to title looking east

Plate A12. (RHS) Verge of North Street adjacent to title looking west

Plates A13-A18. Examples of FRG from east of the powerlines showing localised invasion of paddocks by *Melaleuca ericifolia* and gorse, and the line of *Melaleuca ericifolia* under the powerlines

APPENDIX B. Vascular plant species recorded from study area

Botanical nomenclature follows *A Census of the Vascular Plants of Tasmania* (de Salas & Baker 2022), with family placement updated to reflect the nomenclatural changes recognised in the *Flora of Tasmania Online* (de Salas 2022+) and APG (2016); common nomenclature follows *The Little Book of Common Names of Tasmanian Plants* (Wapstra et al. 2005+, updated online at www.dpipwe.tas.gov.au).

i = introduced/naturalised to Tasmania

DW = declared weed pursuant to Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*); EW = environmental weed (author opinion)

Table B1. Summary of vascular species recorded from the study area

	ORDER			
STATUS	**DICOTYLEDONAE**	**MONOCOTYLEDONAE**	**GYMNOSPERMAE**	**PTERIDOPHYTA**
	7	5	-	1
e	-	-	-	-
i	18	14	-	
Sum	**25**	**19**	**0**	**1**
TOTAL	**45**			

	AIZOACEAE		
	Tetragonia implexicoma	bower spinach	
	ASTERACEAE		
i	*Arctotheca calendula*	capeweed	
i	*Cirsium vulgare*	spear thistle	
i	*Hypochaeris radicata*	rough catsear	
	Senecio minimus	shrubby fireweed	
i	*Sonchus asper*	prickly sowthistle	
i	*Sonchus oleraceus*	common sowthistle	
	CASUARINACEAE		
	Allocasuarina littoralis	black sheoak	
	DROSERACEAE		
	Drosera binata	forked sundew	
	ERICACEAE		
	Styphelia humifusa	native cranberry	
	FABACEAE		
i	*Trifolium repens*	white clover	
i	*Trifolium subterraneum*	subterranean clover	
i	*Ulex europaeus*	gorse	DW
i	*Vicia sativa* subsp. *nigra*	narrowleaf vetch	
	GENTIANACEAE		
i	*Centaurium erythraea*	common centaury	
	MALVACEAE		
i	*Malva arborea*	tree mallow	
	MYRTACEAE		
	Melaleuca ericifolia	coast paperbark	
	PAPAVERACEAE		
i	*Fumaria muralis* subsp. *muralis*	wall fumitory	
	PLANTAGINACEAE		
i	*Plantago lanceolata*	ribwort plantain	
	POLYGONACEAE		
i	*Acetosella vulgaris*	sheep sorrel	
	ROSACEAE		
	Acaena novae-zelandiae	common buzzy	
i	*Rubus* sp.	blackberry	DW
	RUBIACEAE		
i	*Coprosma repens*	mirrorbush	EW

i	*Galium aparine*	cleavers
	SOLANACEAE	
i	*Solanum nigrum*	blackberry nightshade
	MONOCOTYLEDONAE	
	ASPARAGACEAE	
	Lomandra longifolia	sagg
	CYPERACEAE	
	Ficinia nodosa	knobby clubsedge
	Lepidosperma concavum	sand swordsedge
	JUNCACEAE	
	Juncus pallidus	pale rush
	POACEAE	
i	*Agrostis capillaris*	browntop bent
i	*Agrostis stolonifera*	creeping bent
i	*Aira caryophyllea* subsp. *caryophyllea*	silvery hairgrass
i	*Anthoxanthum odoratum*	sweet vernalgrass
i	*Briza maxima*	greater quaking-grass
i	*Bromus diandrus*	great brome
i	*Cynodon dactylon* var. *dactylon*	couchgrass
i	*Cynosurus cristatus*	crested dogstail
i	*Cynosurus echinatus*	rough dogstail
i	*Dactylis glomerata*	cocksfoot
i	*Holcus lanatus*	yorkshire fog
i	*Lolium perenne*	perennial ryegrass
i	*Paspalum dilatatum*	paspalum
	Tetrarrhena distichophylla	hairy ricegrass
i	*Vulpia bromoides*	squirreltail fescue
	PTERIDOPHYTA	
	DENNSTAEDTIACEAE	
	Pteridium esculentum subsp. *esculentum*	bracken

APPENDIX C. Analysis of database records of threatened flora

Table C1 provides a listing of threatened flora from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

Table C1. Threatened flora records from within 5,000 m of boundary of the study area

Species listed below are listed as rare (r), vulnerable (v), endangered (e), or extinct (x) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA); vulnerable (VU), endangered (EN), critically endangered (CR) or extinct (EX) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA). Information below is sourced from DNRET's *Natural Values Atlas* (DNRET 2022a) and other sources where indicated. Habitat descriptions are taken from FPA (2016), FPA (2017) and TSS (2003+), except where otherwise indicated. Species marked with # are listed in CofA (2022).

Scientific name **Common name**	**Status** TSPA EPBCA	**Tasmanian habitat description (and distribution)**	**Comments on study area and database records**
Acacia ulicifolia juniper wattle	r -	*Acacia ulicifolia* is found in sandy coastal heaths and open heathy forest and woodland in the north and east of Tasmania. Populations are often sparsely distributed and most sites are near-coastal but it can occasionally extend inland (up to 30 km).	Potential habitat absent (site is effectively wholly modified). This distinctive perennial shrub was not detected (no seasonal constraint on detection and/or identification).
Aphelia gracilis slender fanwort	r -	*Aphelia gracilis* inhabits damp sandy ground and wet places in the Midlands and northeast of the State. It may readily colonise sites after fire or other disturbance.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Aphelia pumilio dwarf fanwort	r -	*Aphelia pumilio* is found growing on damp flats, often with impeded drainage. The main vegetation types are lowland grassland (*Themeda triandra)* and dry sclerophyll forest and woodland dominated by *Eucalyptus viminalis*, *E. amygdalina* or *E. ovata*.	As above.
Asperula minima mossy woodruff	r -	*Asperula minima* occurs in a range of vegetation types, the common factor being locally impeded drainage. Habitats include near-coastal swamp forests, *Melaleuca ericifolia* swamp forest, *Eucalyptus ovata* sedgy forest, "old pasture" regenerating to sedges and rushes, and firebreaks adjacent to clearfelled forest.	Potential habitat absent (site is effectively all well-drained and is atypical of all reported locations of this species). That said, the line of *Melaleuca ericifolia* is superficially similar to sites that support the species. This distinctive perennial herb was not detected (no seasonal constraint on detection and/or identification).
Bolboschoenus caldwellii sea clubsedge	r -	*Bolboschoenus caldwellii* is widespread in shallow, standing, sometimes brackish water, rooted in heavy black mud.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Caladenia caudata tailed spider-orchid	v VU #	*Caladenia caudata* has highly variable habitat, which includes the central north: *Eucalyptus obliqua* heathy forest on low undulating hills; the northeast: *E. globulus* grassy/heathy coastal forest, *E. amygdalina* heathy woodland and forest, *Allocasuarina* woodland; and the southeast:	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
		E. amygdalina forest and woodland on sandstone, coastal *E. viminalis* forest on deep sands. Substrates vary from dolerite to sandstone to granite, with soils ranging from deep windblown sands, sands derived from sandstone and well-developed clay loams developed from dolerite. A high degree of insolation is typical of many sites.	
Caladenia filamentosa daddy longlegs	r -	*Caladenia filamentosa* occurs in lowland heathy and sedgy eucalypt forest and woodland on sandy soils.	As above.
Caladenia lindleyana lindleys spider-orchid	e CR	*Caladenia lindleyana* occurs in lowland heathy/grassy eucalypt forest and woodland in the Midlands and open shrubby forest in the northeast. There have been very few recent records.	As above.
Caladenia patersonii patersons spider-orchid	v -	*Caladenia patersonii* favours coastal and near-coastal areas in northern Tasmania, growing in low shrubby heathland and heathy forest/woodland in moist to well-drained sandy and clay loam.	As above. The database record that is notionally within 500 m of the study area is from Oct. 1943 and while the precision is indicated as ± 100 m, there is no way of knowing where this species was collected, except by reference to other collections by the same collector (N. Burrows) labelled as 1952 and "George Town".
Callitriche sonderi matted waterstarwort	r -	*Callitriche sonderi* generally occurs on river flood plains or other places subject to periodic inundation. In Tasmania it is known from the Sea Elephant River on King Island, and the shore of a dry lagoon near Low Head.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Calocephalus lacteus milky beautyheads	r -	*Calocephalus lacteus* occurs in open, dry sites in lowland areas of eastern and northern Tasmania and on lower altitudes of the Central Plateau. It requires bare ground for recruitment, and may benefit from disturbance. It is often found on roadsides and beside tracks.	Potential habitat effectively absent. That said, I confirmed populations on Old Aerodrome Road that occur on highly modified road verges such that its presence cannot be wholly discounted from this site. This distinctive perennial sub-shrub was not detected (no seasonal constraint on detection and/or identification).
Chorizandra enodis black bristlesedge	e -	*Chorizandra enodis* is found in damp sandy heath around the Low Head region but can also extend to slashed roadside margins (ex-wet heathland and swamp forest) and on tracks through *Melaleuca ericifolia* swamp forest (and occasionally other poorly-drained sites).	Potential habitat absent (site is effectively all well-drained and is atypical of all reported locations of this species). That said, the line of *Melaleuca ericifolia* is superficially similar to sites that support the species. This distinctive perennial graminoid was not detected (no seasonal constraint on detection and/or identification). The species is reported from the western end of North Street (and many other low-lying sites around the Grater George Town-Low Head-Bell Buoy Beach area). I confirmed (and re-mapped) the populations along North Street and these extend only to

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
			the low-lying flat terrain and the species is immediately absent as the slope increases to the east. NBES (2001) undertook surveys for this species and concluded that "there is also a strong likelihood that "the potential exists for additional roadside populations on roads south of North St.". I do not believe the subject title was intended in this statement, rather the low-lying areas further west.
Coopernookia barbata purple native-primrose	x -	*Coopernookia barbata* is presumed extinct in Tasmania. Some doubt remains as to whether the only specimen attributed to this species from Tasmania was collected from the State. It was reportedly collected by Robert Brown from Port Dalrymple in the early 1800s. In NSW it grows mostly in dry sclerophyll forest, often on sandstone.	Species is presumed extinct.
Cyrtostylis robusta large gnat-orchid	r -	*Cyrtostylis robusta* is known from coastal or near-coastal sites in forest and heathland on well-drained soils. There is sometimes a strong correlation with *Allocasuarina verticillata* (drooping sheoak) on coastal dolerite cliffs.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Deyeuxia minor small bentgrass	r -	*Deyeuxia minor* inhabits open eucalypt forests or the margins of wet sclerophyll forest in the southwest, south and northeast of the State.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Epacris exserta south esk heath	e EN	*Epacris exserta* occurs along the lower reaches of the South Esk, North Esk and Supply rivers. It is a strictly riparian species that grows in areas subject to periodic inundation, mainly on alluvium amongst dolerite boulders within dense riparian scrub, and occasionally in open rocky sites. It has been recorded from 10-310 m a.s.l.	Potential habitat absent (not a rocky riverine site).
Epacris virgata Beaconsfield twiggy heath	v EN #	*Epacris virgata* (Beaconsfield) is restricted to a small area of undulating terrain in the foothills of the Dazzler Range near Beaconsfield, where it occurs on serpentinite-derived soils in dry sclerophyll forest at an elevation of 40-80 m a.s.l.	Potential habitat absent (site is wholly modified and the substrate is sand).
Glycine latrobeana clover glycine	v VU	*Glycine latrobeana* occurs in a range of habitats, geologies and vegetation types. Soils are usually fertile but can be sandy when adjacent to or overlaying fertile soils. The species mainly occurs on flats and undulating terrain over a wide geographical range, including near-coastal environments, the Midlands, and the Central Plateau. It mainly occurs in grassy/heathy forests and woodlands and native grasslands.	Potential habitat absent (site is wholly modified).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
Euphrasia scabra yellow eyebright	e -	*Euphrasia scabra* occurs in moist herb/sedge communities in grassy leads in marshes and in drier open grassy areas at the headwaters of creeks. Its habitat is associated with gaps created by grazing, flooding or other disturbance. It has been recorded from scattered sites throughout lowland areas of Tasmania, including the northwest coast, central north, Midlands, Eastern Tiers and around Hobart. However, it is considered to be extinct from many of these sites, and populations are low and transient in areas (Eastern Tiers and Hobart) with the greatest probability of still supporting the species.	Potential habitat absent (site is effectively wholly modified). This distinctive perennial sub-shrub was not detected (no seasonal constraint on detection and/or identification).
Hydrorchis orbicularis swamp onion-orchid	r -	*Hydrorchis orbicularis* is uncommon and localised in coastal and near-coastal lowland areas, almost exclusively in the northeast and the Furneaux islands. It occurs in habitats subject to periodic inundation such as swamps and depressions. The base of the plants is usually immersed in water and plants can be wholly submerged in wet years. It has been recorded from herbfield, sedgeland, grassland and heathland on peats and sandy loams.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Isoetes drummondii subsp. *drummondii* plain quillwort	r -	*Isoetes drummondii* subsp. *drummondii* is usually found in damp soils amongst dense grasses, such as the waterlogged pastures and waterways of the Midlands (with some outliers on the Forestier Peninsula and elsewhere). Habitats include woodland and forest dominated by *Eucalyptus rodwayi* and *E. amygdalina*, man-made ditches, muddy tracks and grassy "runs" through open forest. It also occurs on the seasonally inundated shores of man-made or natural waterbodies such as Camerons Lagoon, Wihareja Lagoon and Lake Leake.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Isolepis stellata star clubsedge	r -	*Isolepis stellata* has been recorded from near-coastal areas in the State's north and east, and also in the Northern Midlands near Conara. Habitat includes the margins of sedgy wetlands, wet soaks and seasonally inundated heathy sedgelands: the altitude of recorded sites in Tasmania ranges from close to sea level to elevations of 240 m a.s.l.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Lepidosperma viscidum sticky swordsedge	r -	*Lepidosperma viscidum* occurs in a range of heathland to heathy/shrubby woodland habitats often dominated by species of *Allocasuarina* (sheoak) on a range of substrates.	Potential habitat absent (site is effectively wholly modified). That said, I have found this species in highly disturbed sites such as intensively managed powerline easements so it is

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
			difficult to wholly discount its possible presence. This distinctive perennial graminoid was not detected (no seasonal constraint on detection and/or identification). *Lepidosperma concavum* was highly localised.
Limonium australe var. *australe* yellow sea-lavender	r -	*Limonium australe* var. *australe* occurs in succulent or graminoid saltmarsh close to the high water mark, typically near small brackish streams.	Potential habitat absent (site is not saline).
Leucochrysum albicans subsp. *tricolor* grassland paperdaisy	e EN # only	*Leucochrysum albicans* subsp. *tricolor* occurs in the west and on the Central Plateau and the Midlands, mostly on basalt soils in open grassland. This species would have originally occupied *Eucalyptus pauciflora* woodland and tussock grassland, though most of this habitat is now converted to improved pasture or cropland.	Potential habitat absent (site is not native grassland or grassy woodland). The listing in CofA (2022) is considered erroneous.
Lotus australis australian trefoil	r -	*Lotus australis* is found mainly in near-coastal areas around the State within *Poa* tussock grassland, low coastal shrubbery and dunes.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Lythrum salicaria purple loosestrife	v -	*Lythrum salicaria* inhabits swamps, stream banks and rivers mainly in the north and northeast of the State. It can also occur between gaps in *Melaleuca ericifolia* forest. This species can act as a weed, proliferating along roadsides and other disturbed areas, and, as horticultural strains are in cultivation and birds can disperse seed, some occurrences may not be native.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Microtidium atratum yellow onion-orchid	r -	*Microtidium atratum* occurs in habitats subject to periodic inundation such as swamps, depressions and soaks. The base of the plants is usually immersed in water and plants can be wholly submerged in wet years. *Microtidium atratum* has been recorded from herbfield, sedgeland, grassland and heathland on peats and sandy loams. It has also been recorded from roadside drains and winter-wet pastures.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Phyllangium distylis tiny mitrewort	r -	*Phyllangium distylis* occurs in sandy humic heaths and open shrublands, muddy soaks and the margins of ephemeral wetlands.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Phyllangium divergens wiry mitrewort	v -	*Phyllangium divergens* occurs in a wide variety of near-coastal habitats on a range of substrates, a common feature usually being bare ground (e.g. tracks) and rock exposures (e.g. outcrops, coastal cliffs, etc.).	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Phylloglossum drummondii pygmy clubmoss	r -	*Phylloglossum drummondii* occurs in wet peaty soils where there is little competition from other plants.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
Pimelea flava subsp. *flava* yellow riceflower	r -	*Pimelea flava* subsp. *flava* occurs in wet and dry sclerophyll forest and woodland, and extends into hardwood and softwood plantations. It often occurs abundantly on disturbed sites such as in logged forest, firebreaks, powerline easements and road batters.	Potential habitat absent (site is effectively wholly modified). This distinctive perennial shrub was not detected (no seasonal constraint on detection and/or identification).
Pomaderris paniculosa subsp. *paralia* shining dogwood	r -	*Pomaderris paniculosa* subsp. *paralia* occurs in exposed sites along cliff lines and within dune and coastal heaths and scrubs, and low forest dominated by *Allocasuarina verticillata* (drooping sheoak).	Potential habitat absent (site is effectively wholly modified). This distinctive perennial shrub was not detected (no seasonal constraint on detection and/or identification).
Prasophyllum apoxychilum tapered leek-orchid	v EN # only	*Prasophyllum apoxychilum* is restricted to eastern and northeastern Tasmania where it occurs in coastal heathland or grassy and scrubby open eucalypt forest on sandy and clay loams, often among rocks. It occurs at a range of elevations and seems to be strongly associated with dolerite in the east and southeast of its range.	Potential habitat absent (site is wholly modified).
Prasophyllum secutum northern leek-orchid	e CR	*Prasophyllum secutum* occurs in northern Tasmania in dense coastal scrub in the swales of stabilised sand dunes on white to grey sands and sandy loam.	Potential habitat absent (site is wholly modified).
Pterostylis cucullata subsp. *cucullata* leafy greenhood	e (v pending) VU	*Pterostylis cucullata* subsp. *cucullata* is known from near-coastal areas in the State's northwest, including Hunter Island, Three Hummock Island and King Island, where it occurs on calcareous dunes and sand-sheets, within closed scrubs dominated by either *Leptospermum laevigatum* (coast teatree) or *Beyeria lechenaultii* var. *latifolia* (pale turpentine-bush). The sites are typically sheltered, facing south or southeasterly to westerly, with seasonally damp but well-drained humus-rich sandy loams, often with moss and deep leaf litter.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Pterostylis ziegeleri grassland greenhood	v VU	*Pterostylis ziegeleri* occurs in the State's south, east and north, with an outlying occurrence in the northwest. In coastal areas, the species occurs on the slopes of low stabilised sand dunes and in grassy dune swales, while in the Midlands it grows in native grassland or grassy woodland on well-drained clay loams derived from basalt.	Potential habitat absent (site is wholly modified).
Pultenaea mollis soft bushpea	v -	*Pultenaea mollis* occurs in heathy and shrubby forest and woodland.	Potential habitat absent (site is effectively wholly modified). This distinctive perennial shrub was not detected (no seasonal constraint on detection and/or identification).
Rumex bidens mud dock	v -	*Rumex bidens* grows at the margins of lakes, swamps, and slow-moving rivers and streams, and may also occur in drainage channels.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
Scutellaria humilis dwarf scullcap	r -	*Scutellaria humilis* is found in moist, shady places in the northeast and southeast of the State. Recent sites have been associated with rocky slopes and rises.	Potential habitat absent (site is effectively wholly modified). This distinctive perennial sub-shrub was not detected (no seasonal constraint on detection and/or identification).
Senecio psilocarpus swamp fireweed	e VU # only	*Senecio psilocarpus* is known from six widely scattered sites in the northern half of the State, including King and Flinders islands. It occurs in swampy habitats including broad valley floors associated with rivers, edges of farm dams amongst low-lying grazing/cropping ground, herb-rich native grassland in a broad swale between stable sand dunes, adjacent to wetlands in native grassland, herbaceous marshland and low-lying lagoon systems.	Potential habitat absent (site is effectively all well-drained and is atypical of all reported locations of this species).
Siloxerus multiflorus small wrinklewort	r -	*Siloxerus multiflorus* occurs in a range of somewhat exposed lowland habitats, including bare soil and rocks amongst dense windswept coastal shrubbery to rock outcrops and bare ground associated with native grassland, grassy woodland and forest.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Solanum opacum greenberry nightshade	e -	*Solanum opacum* is known from a variety of habitats. On King Island, the species occurs in poorly-drained tall *Melaleuca ericifolia* swamp forest. Similarly, on Inner Sister Island, it occurs in *Melaleuca ericifolia/Leptospermum laevigatum* scrub on sandy loams in a small gully associated with an ephemeral stream. On Prime Seal Island, the species was recorded from open shrubberies on granite outcrops. The habitat of the site from Harford is simply reported as a "rocky hilltop".	Potential habitat absent (site is effectively wholly modified). That said, I have found this species in highly disturbed sites such as edges of paddocks near forest so it is difficult to wholly discount its possible presence. This distinctive perennial shrub was not detected (no seasonal constraint on detection and/or identification). The weedy *Solanum nigrum* was recorded (identifiable by its black, not green, fruit).
Spyridium obcordatum creeping dustymiller	v VU #	*Spyridium obcordatum* is restricted to the Central North Coast. In hills to the east of the Dazzler Range near Beaconsfield, it primarily occurs amongst serpentine outcrops in dry open forest or woodland dominated by *Eucalyptus amygdalina.* In coastal areas from Greens Beach to Hawley Beach at Port Sorell, it occurs on sandstone and dolerite in *Allocasuarina verticillata* woodland and *Allocasuarina monilifera-Leptospermum scoparium* heath. The species is often associated with outcropping rocks, exposed rock plates and rocky ground. It occurs at altitudes less than 180 m a.s.l. It is most abundant in disturbed areas, as it can proliferate from soil-stored seed after disturbance.	Potential habitat absent (site is wholly modified and the substrate is not on dolerite).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
Spyridium parvifolium var. *parvifolium* coast dustymiller	r -	*Spyridium parvifolium* var. *parvifolium* mainly occurs in near-coastal areas in northern Tasmania. It occurs in a range of vegetation types, mainly shrubby dry sclerophyll forests and woodlands. It can proliferate from soil-stored seed after disturbance.	Potential habitat absent (site is effectively wholly modified). This distinctive perennial shrub was not detected (no seasonal constraint on detection and/or identification).
Stylidium despectum small triggerplant	r -	*Stylidium despectum* has mainly been recorded from wet sandy heaths, moist depressions, soaks and hollows in near-coastal areas. It extends to similar habitat amongst forest and woodland in the Midlands.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Stylidium perpusillum tiny triggerplant	r -	*Stylidium perpusillum* occurs in wet sandy heaths, moist depressions, soaks and hollows.	As above.
Tetratheca ciliata northern pinkbells	r -	*Tetratheca ciliata* occurs from near-coastal areas in the State's north at elevations below 70 m, ranging from Rocky Cape in the west to Tomahawk/Boobyalla in the east, and an outlying site near Liffey about 60 km inland and 320 m a.s.l. It has been recorded from heathlands and heathy woodlands on sandy well-drained soils, the woodland dominated by *Eucalyptus amygdalina*.	Potential habitat absent (site is effectively wholly modified). This distinctive perennial shrub was not detected (no seasonal constraint on detection and/or identification).
Thelymitra antennifera rabbit ears	v -	*Thelymitra antennifera* is known from several locations along the north and northeast coast, occurring in heathland on poorly- to moderately-drained peaty and sandy soils, sometimes in mossy skeletal soils on granite bedrock.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Thelymitra bracteata leafy sun-orchid	e -	*Thelymitra bracteata* is known from two sites in southern Tasmania: Rosny Hill and Coningham. It grows in open grassy and heathy forest/woodland on mudstone and sandstone.	As above.
Triglochin minutissima tiny arrowgrass	r -	*Triglochin minutissima* inhabits fresh or brackish mudflats or margins of swamps in lowland, mostly coastal areas.	Potential habitat absent (site is effectively wholly modified and atypical of all sites supporting the species).
Veronica plebeia trailing speedwell	r -	*Veronica plebeia* typically occurs in dry to damp sclerophyll forest dominated by *Eucalyptus amygdalina* on dolerite or Tertiary sediments, but can also occur in *Eucalyptus ovata* grassy woodland/forest and *Melaleuca ericifolia* swamp forest.	Potential habitat absent (site is effectively wholly modified). This distinctive perennial herb was not detected (no seasonal constraint on detection and/or identification).
Xanthorrhoea arenaria sand grasstree	v VU # only	*Xanthorrhoea arenaria* is restricted to coastal areas from Bridport in the northeast to Coles Bay on the East Coast, where it occurs in coastal sandy heathland, extending into heathy woodland and forest, mainly dominated by *Eucalyptus amygdalina.*	Potential habitat absent (site is wholly modified). This distinctive perennial graminoid was not detected (no seasonal constraint on detection and/or identification).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
Xanthorrhoea bracteata shiny grasstree	v EN #	*Xanthorrhoea bracteata* is restricted to coastal areas from the Asbestos Range to Waterhouse Point in the northeast, where it occurs in sandy soils, often acid and waterlogged, in coastal heathland, extending into heathy woodland and forest, mainly dominated by *Eucalyptus amygdalina*.	As above.
Xerochrysum palustre swamp everlasting	v VU # only	*Xerochrysum palustre* has a scattered distribution with populations in the northeast, east coast, Central Highlands and Midlands, all below about 700 m elevation. It occurs in wetlands, grassy to sedgy wet heathlands and extends to associated heathy *Eucalyptus ovata* woodlands.	Potential habitat absent (site is effectively all well-drained and is atypical of all reported locations of this species).

APPENDIX D. Analysis of database records of threatened fauna

Table D1 provides a listing of threatened fauna from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

Table D1. Threatened fauna records from 5,000 m of boundary of the study area

Species listed below are listed as rare (r), vulnerable (v), endangered (e), or extinct (x) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA); vulnerable (VU), endangered (EN), critically endangered (CR) or extinct (EX) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA). Information below is sourced from the DNRET's *Natural Values Atlas* (DNRET 2022a), Bryant & Jackson (1999), McNab (2018) and FPA (2022); marine, wholly pelagic and littoral species such as marine mammals, fish and offshore seabirds are excluded. Species marked with # are listed in CofA (2022).

Scientific name **Common name**	**Status** TSPA EPBCA	**Tasmanian habitat description (and distribution)**	**Comments on project area and database records**
Accipiter novaehollandiae grey goshawk	e -	Potential habitat is native forest with mature elements below 600 m altitude, particularly along watercourses. Significant habitat for the grey goshawk may be summarised as areas of wet forest, rainforest and damp forest patches in dry forest, with a relatively closed mature canopy, low stem density, and open understorey in close proximity to foraging habitat and a freshwater body.	Potential habitat absent, except in a very general sense. The species may very occasionally utilise the greater title area as part of a home range and for foraging but small-scale development should not have a significant impact on this aspect of the life history of the species.
Antipodia chaostola tax. *leucophaea* chaostola skipper	e EN #	Potential habitat is dry forest and woodland supporting *Gahnia radula* (usually on sandstone and other sedimentary rock types) or *Gahnia microstachya* (usually on granite-based substrates).	Potential habitat absent, as both species of *Gahnia* are not present.
Apus pacificus fork-tailed swift	- - # only	Seasonal migrant (December through March) with habitat open skies over any habitat, more commonly associated with forested hills and mountains (McNab 2018).	Potential habitat widespread but this is a species that flies at high altitude, very fast and highly mobile, feeding on the wing and virtually never perches (McNab 2018). This species should not require further consideration.
Aquila audax subsp. *fleayi* wedge-tailed eagle	e EN #	Potential nesting habitat is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest. Nest trees are usually amongst the largest in a locality. They are generally in sheltered positions on leeward slopes, between the lower and mid sections of a slope and with the top of the tree usually lower than the ground level of the top of the ridge, although in some parts of the State topographic shelter is not always a significant factor (e.g. parts of the northwest and Central Highlands).	Potential nesting habitat absent (no forest within title, no suitable nesting habitat within 1 km of title). No known nests within 1,000 m of subject title. The species may utilise the greater title area as part of a home range and for foraging but small-scale development should not have a significant impact on this aspect of the life history of the species.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
Botaurus poiciloptilus Australasian bittern	- EN # only	Potential habitat is comprised of wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and reeds or cutting grass growing over a muddy or peaty substrate (TSSC 2011).	Potential habitat absent. Wetlands are absent.
Bubulcus coromandus [syn. *B. ibis*, *Ardea ibis*] cattle egret	- - # only	Seasonal migrant (April through October) with habitat agricultural lands, crops, dams, pastures, particularly those with cattle, mudflats and wetlands (McNab 2018).	Potential habitat absent, except in a very general sense. This species should not require further consideration.
Ceyx azureus subsp. *diemenensis* [syn. *Alcedo azurea* subsp. *diemenensis*] Tasmanian azure kingfisher	e EN # only	Potential foraging habitat is primarily freshwater (occasionally estuarine) waterbodies such as large rivers and streams with well-developed overhanging vegetation suitable for perching and water deep enough for dive-feeding. Potential breeding habitat is usually steep banks of large rivers (a breeding site is a hole (burrow) drilled in the bank).	Potential habitat absent. No permanent waterbodies or drainage features present.
Dasyurus maculatus subsp. *maculatus* spotted-tailed quoll	r VU #	Potential habitat is coastal scrub, riparian areas, rainforest, wet forest, damp forest, dry forest and blackwood swamp forest (mature and regrowth), particularly where structurally complex and steep rocky areas are present, and includes remnant patches in cleared agricultural land.	Potential habitat absent, except in a very general sense. This species should not require further consideration.
Dasyurus viverrinus eastern quoll	- EN #	Potential habitat is a variety of habitats including rainforest, heathland, alpine areas and scrub. However, it seems to prefer dry forest/native grassland mosaics which are bounded by agricultural land.	See under spotted-tailed quoll.
Engaeus granulatus Central North burrowing crayfish	e EN #	Potential habitat includes any poorly-drained habitats such as streams (of any class and disturbance history), seepages (e.g. springs in forest or pasture, outflows of farm dams), low-lying flat swampy areas and vegetation (e.g. buttongrass and heathy plains, marshy areas, boggy areas of pasture), drainage depressions, ditches (artificial and natural, including roadside ditches, pasture drains, etc.).	Potential habitat absent. The listing in DNRET (2022a) and CofA (2022) is considered erroneous based on the predicted range of the species (FPA 2022).
Galaxiella pusilla eastern dwarf galaxias	v VU	Potential habitat is slow-flowing waters such as swamps, lagoons, drains or backwaters of streams, often with aquatic vegetation. It may also be found in temporary waters that dry up in summer for as long as 6-7 months, especially if burrowing crayfish burrows are present (although these will usually be connected to permanent water). Habitat may include forested swampy	Potential habitat absent. No permanent waterbodies or drainage features present.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
		areas but does not include blackwood swamp forest. Juveniles congregate in groups at the water surface in pools free of vegetation. Significant habitat is all potential habitat and a 30 m stream-side reserve within the core range.	
Gallinago hardwickii Lathams snipe	- - # only	Seasonal migrant that prefers brackish, fresh and saline habitats including lagoons, lakes, marshes, swamps, wet grasslands and paddocks and wetlands with tussockgrasses (McNab 2018).	Potential habitat absent, except in a very general sense. This species should not require further consideration.
Haliaeetus leucogaster white-bellied sea-eagle	v -	Potential habitat comprises potential nesting habitat and potential foraging habitat. Potential foraging habitat is any large waterbody (including sea coasts, estuaries, wide rivers, lakes, impoundments and even large farm dams) supporting prey items (fish). Potential nesting habitat is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest within 5 km of the coast (nearest coast including shores, bays, inlets and peninsulas), large rivers (class 1), lakes or complexes of large farm dams.	Potential nesting habitat absent (no forest within title, no suitable nesting habitat within 1 km of title). No known nests within 1,000 m of subject title. The species may utilise the greater title area as part of a home range and for foraging (although this would be mainly over open water) but small-scale development should not have a significant impact on this aspect of the life history of the species.
Hirundapus caudacutus white-throated needletail	- VU #	Seasonal migrant (December through March) with habitat open skies over any habitat, more commonly associated with forested hills and mountains (McNab 2018).	Potential habitat widespread but this is a species that flies at high altitude, very fast and highly mobile, feeding on the wing and virtually never perches (McNab 2018). This species should not require further consideration.
Lathamus discolor swift parrot	e CR #	Potential foraging habitat comprises *E. globulus* or *E. ovata* trees that are old enough to flower. Potential nesting habitat is considered to comprise eucalypt forests that contain hollow-bearing trees.	Potential habitat absent. Blue gum, black gum and hollow-bearing trees are not present.
Limnodynastes peroni striped marsh frog	e -	Potential habitat is natural and artificial coastal and near-coastal wetlands, lagoons, marshes, swamps and ponds (including dams), with permanent freshwater and abundant marginal, emergent and submerged aquatic vegetation. Significant habitat is still or very slow flowing water bodies, with at least some vegetation, and a lack of obvious pollutants (oils, chemicals, etc).	Potential habitat absent. No permanent waterbodies or drainage features present.
Litoria raniformis green and golden frog	v VU #	Potential habitat is permanent and temporary waterbodies, usually with vegetation in or around them, including features such as natural lagoons, permanently or seasonally inundated swamps and wetlands, farm dams, irrigation channels, artificial water-holding sites such as old quarries, slow-flowing stretches of streams and rivers and drainage features.	As above.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
Myiagra cyanoleuca satin flycatcher	- - # only	Seasonal migrant (November through march) with habitat scrub, wet and dry sclerophyll forests, woodlands and creeklines (McNab 2018).	Potential habitat absent, except in a very general sense. This species should not require further consideration.
Neophema chrysostoma blue-winged parrot	- - # only	Seasonal migrant (October through April) with habitat agricultural lands, crops, dams, paddocks, coastal scrub, open grassy woodlands, heathland and saltmarshes (McNab 2018).	See under satin flycatcher.
Perameles gunnii subsp. *gunnii* eastern barred bandicoot	- VU #	Potential habitat is open vegetation types including woodlands and open forests with a grassy understorey, native and exotic grasslands, particularly in landscapes with a mosaic of agricultural land and remnant bushland. Significant habitat is dense tussock grass-sagg-sedge swards, piles of coarse woody debris and denser patches of low shrubs (especially those that are densely branched close to the ground providing shelter) within the core range of the species.	Potential habitat present (as the species is known to utilise natural habitats and modified land). The species may utilise the greater title area as part of a home range and for foraging but development of the already highly modified title should not have a significant impact on this aspect of the life history of the species.
Prototroctes maraena Australian grayling	v VU #	Potential habitat is all streams and rivers in their lower to middle reaches. Areas above permanent barriers (e.g. Prosser River dam, weirs) that prevent fish migration, are not potential habitat.	Potential habitat absent. No permanent waterbodies or drainage features present.
Pseudemoia pagenstecheri tussock skink	v -	Potential habitat comprises native grasslands dominated by tussock-forming grasses.	Potential habitat absent. Native grassland is absent.
Pseudemoia rawlinsoni glossy grass skink	r -	Potential habitat is wetlands and swampy sites (including grassy wetlands, teatree swamps and grassy sedgelands), and margins of such habitats	Potential habitat absent. Swampy habitats are absent (except highly superficially). See also main text of report for extensive discussion on this species.
Pseudomys novaehollandiae New Holland mouse	e VU	Potential habitat is heathlands (mainly dry heathlands but also where dry heathlands form a mosaic with other heathland, moorland and scrub complexes), heathy woodlands (i.e. eucalypt canopy cover 5-20%), *Allocasuarina*-dominated forests on sandy substrates (not dolerite or basalt), and vegetated sand dunes. Key indicator plant species include (but are not restricted to) *Aotus ericoides*, *Lepidosperma concavum*, *Hypolaena fastigiata* and *Xanthorrhoea* spp. Significant habitat is all potential habitat within the potential range of the species	Potential habitat absent. Heathland and heathy woodland are not present.
Sarcophilus harrisii Tasmanian devil	e EN #	Potential habitat is all terrestrial native habitats, forestry plantations and pasture. Devils require shelter (e.g. dense vegetation, hollow logs, burrows or caves) and hunting habitat (open understorey mixed with patches of dense vegetation) within their home range (4-27 km^2). Potential denning	See under spotted-tailed quoll.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
		habitat is areas of burrowable, well-drained soil, log piles or sheltered overhangs such as cliffs, rocky outcrops, knolls, caves and earth banks, free from risk of inundation and with at least one entrance through which a devil could pass.	
Tyto novaehollandiae subsp. *castanops* masked owl	e VU #	Potential habitat is all areas with trees with large hollows (≥15 cm entrance diameter). Remnants and paddock trees (in any dry or wet forest type) in agricultural areas may constitute potential habitat. Significant habitat is native dry forest with trees over 100 cm dbh with large hollows (≥15 cm entrance diameter).	Potential nesting habitat absent. Large trees with large hollows are absent from the title. The species may utilise the greater title area as part of a home range and for foraging but development of the already highly modified title should not have a significant impact on this aspect of the life history of the species.

APPENDIX E. DNRET's *Natural Values Atlas* report for the study area

Appended as pdf file.

APPENDIX F. Forest Practices Authority's *Biodiversity Values Atlas* report for the study area

Appended as pdf file.

APPENDIX G. CofA's *Protected Matters* report for the study area

Appended as pdf file.

ATTACHMENT

- .shp file of revised vegetation mapping