Huntingfield Sub-Division Stage 2 & 3

Rehabilitation and Revegetation Plan

Homes Tasmania

26 March 2025

→ **The Power of Commitment**

EPBC Referral No. – 2020/8869

Approval Holder & ABN – Homes Tasmania (HT) - 83 625 432 188

Location of approved action - 287 Channel Hwy Huntingfield TAS 7055

Declaration of accuracy

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

Signed:

Full name: Richard Gilmour, Director Community Infrastructure

Organisation: Homes Tasmania

Date 26 March 2025

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Executive Summary

The purpose of this Revegetation and Rehabilitation Plan (RRP) is to outline the revegetation and rehabilitation activities proposed for the approved action area to fulfill Conditions 3, 4, 6 and 8 of the EPBC Approval (2020/8869) related to the Huntingfield sub-division.

Summarising the information provided to support the EPBC Approval, the direct impacts of the approved action to the Forty-spotted Pardalote (Pardalotus quadragintus) and any associated habitat include:

- Removal of native vegetation during construction
- Increase in the introduction of invasive flora species and pathogens acting to degrade the condition of the *E. viminalis* patches

Indirect impacts of the approved action include:

- Collision with human-made structures and vehicles during the construction and post-completion of the development.
- Human disturbance of bird species via bushwalkers and nature visitors, along with rubbish dumping.
- Increase in feral and domestic species presence.
- Anthropogenic disturbance of threatened species.

The primary goal of the RRP is to rehabilitate vegetation within the approved action area to mitigate against potential direct and indirect impacts of the approved action, whilst also creating and improving the extent of habitat for the Forty-spotted Pardalote.

The following objectives are specified for this RRP with the intent to mitigate the direct and indirect impacts listed above:

- Increase the extent of available suitable habitat for Forty-spotted Pardalotes within the approved action area by revegetating areas of agricultural land (TASVEG code FAG) with native flora species associated with the relevant reference sites.
- Improve the condition of the existing suitable habitat for Forty-spotted Pardalotes within the approved action area by rehabilitating areas of Eucalyptus amygdalina forest and woodland on sandstone (TASVEG code DAS) vegetation known to support Forty-spotted Pardalote habitat through planting with similar species and other management activities (weed control).
- Undertake management activities until the completion criteria are met.
- Establishment of a wildlife corridor to facilitate potential movement of native fauna species between the Huntingfield Estate and Peter Murrell Conservation Area, with a focus on Forty-spotted Pardalote.
- Activities are undertaken in accordance with the Plan to meet the requirements of the completion criteria.
- Habitat suitable for Forty-spotted Pardalote foraging and breeding within the approved action area is secured in perpetuity.

The RRP contains commitments related to the provision and timing of actions required to meet the above objectives, completion criteria to assess the effectiveness of the RRP, monitoring to ensure those completion criteria are achieved, corrective actions (where monitoring indicates the completion criteria are not met) and the reporting required to inform the Department of Climate Change, Energy, the Environment and Water (DCCEEW) of the implementation of the above.

Contents

Table index

Figure index

Appendices

1. Introduction

1.1 Purpose of this report

The purpose of this RRP is to outline the revegetation and rehabilitation activities proposed for the approved action area and aims to fulfill conditions 3, 4, 6 and 8 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) approval related to the Huntingfield sub-division (2020/8869), whilst also supporting the Development Application for the proposed wetland to the south of the Huntingfield sub-division.

The RRP has been developed by GHD, in consultation with HT and key stakeholders in accordance with the Department of Climate Change, Energy, The Environment and Water (DCCEEW) 'Environmental Management Plan Guidelines' (the Guidelines). Where this RRP is assessed and approved by the Minister, HT will implement the RRP in full with the intent to achieve the goals and objectives outlined in section 4.

In line with requests from DCCEEW for oversight by a suitably qualified forty-spotted pardalote expert, an independent review of this RRP was undertaken by Dr Matthew Webb. Comments and amendments from this review have subsequently been adopted and included in this iteration of the RRP.

1.2 Scope and limitations

Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

GHD has prepared this report on the basis of information provided by Homes Tasmania and others who provided information to GHD (including Government authorities and consultants)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

1.3 Assumptions

GHD has relied on the following information in the preparation of this document:

- Bryant, S.L. (2010). Conservation assessment of the endangered Forty-spotted pardalote 2009 - 2010. Report to Threatened Species Section, DPIPWE and NRM South, Hobart Tasmania.
- Huys, S. (2012). Huntingfield Aboriginal Heritage Assessment Stage 2a Ploughing and Survey Assessment FINAL REPORT, Cultural Heritage Management Australia.
- Lijima, C. (2010). Extent and quality of habitat for the endangered Forty-spotted pardalote (*P. quadragintus*) at Howden, Tasmania, Coursework Master thesis, University of Tasmania.
- Threatened Species Section. (2012). Listing State for *P. quadragintus* (Forty-spotted pardalote). Department of Primary Industries, Parks, Water and Environment, Tasmania.
- Threatened Species Section. (2006). Fauna Recovery Plan: Forty-spotted pardalote 2006-2010. Department of Primary Industries and Water, Hobart.

The Tasmanian Natural Values Atlas (NVA) database – which is the most authoritative repository of information on natural values in Tasmania. A NVA Report will identify threatened fauna and flora records within 500 m and 5000 m from the edge of the survey area. The report will also provide lists of TASVEG vegetation communities, geoconservation sites listed on the Tasmanian Geoconservation Database for any site or area within the State.

The Environment Protection and Biodiversity Conservation (EPBC) Act 1999 PMST – which provides a PMST Report that identifies any matters listed under the EPBC Act within a 5000 m buffer around the survey area.

The Land Information System Tasmania (LIST) database – a web-based repository of the State's comprehensive spatial data resources including property and land title information, satellite imagery, topographic maps, geological maps and natural values data.

The Tasmanian Threatened Species Link – contains management and conservation advice on Tasmania's threatened species, including species-specific information on survey periods, habitat, activities most likely to cause an impact, and links to DPIPWE note sheets and species recovery plans.

SKM. (2009) – Flora and Fauna Assessment – Huntingfield Site. Desktop Assessment and Field Survey. May 2009.

GHD. (2019). – Huntingfield Master Plan Civil Design - Botanical and Fauna Habitat – Updated Assessment. Desktop Assessment and Field Survey. June 2019.

GHD. (2020a). – Huntingfield Master Plan Civil Design – Natural Values Assessment (Proposed Roundabout). Desktop Assessment and Field Survey. December 2020.

GHD. (2020b). – Huntingfield Master Plan Civil Design - Natural Values Assessment Stage 1. Desktop Assessment. December 2020.

North Barker Ecosystem Services (NBES). (2020). Huntingfield Master Plan and Civil Design – Matters of National Environmental Significance - Significant Impact Assessment. Desktop Assessment and Field Survey. September 2020.

2. Background

This Revegetation and Rehabilitation Plan (RRP) is related to the subdivision of the land known as the Huntingfield site (the Site) at 1287 Channel Highway, Kingston, Tasmania. The Site is under the tenure of Homes Tasmania (HT)[1] and composed of several cadastral parcels including Lot 1 on Plan 172716, Lot 1 on Plan 172715, Lot 2 on Sealed Plan 131270 and Lot 1 on Plan 134371.

HT are proposing a residential development on the Site, including associated infrastructure, known as the Huntingfield Master Plan. Contained with the Site is the 'approved action area' (EPBC Ref: 2020/8869), comprised of construction of Stage 2 and 3 of the Huntingfield Master Plan.

2.1 Project Description

The approved action area, along with stage 1 of the overall Huntingfield development, would provide a mix of housing options, including dwellings on smaller lots. This inclusion of smaller lot housing is important for increasing the density of greenfield development for more sustainable urban growth while maintaining high levels of amenity.

Stages 2 and 3 aim to provide a mix of lot sizes for future residential development. Based on the Huntingfield Master Plan layout, it is anticipated that both stages would provide around 250 lots in total, with a mix of low density lots (>500 m2), standard density lots (350-499 m2), medium density lots (275-349 m2) and townhouse lots (no greater than 199 m2).

Stage 3 also includes a wetland to support stormwater treatment and associated works (refer Figure 1). The constructed wetland is proposed at the south-west corner of the site. The wetland covers an approximate area of 1.48 ha and includes a sediment basin, planted native vegetation, a dewatering area, access tracks and a bypass channel. This wetland will act as a water retarding basin with functional properties including surface water runoff capture and storage, natural water filtration (including suspended solids (SS), Phosphorus (P), Nitrogen (N)) and fauna habitat installation.

The approved action area includes construction of roads. Under the Huntingfield Master Plan, these are separated into three types: collector road, local road and access laneway. Collector roads would be up to 24 m wide, with local roads up to 18 m wide, and access laneway up to 8 m wide. The Huntingfield Master Plan also includes an extensive network of paths for walking and cycling.

2.1.1 Proposed staging

The Huntingfield Master Plan is defined by four distinct areas including the proposed roundabout and Stages 1, 2 and 3. The original EPBC referral (2020/8869) listed the project commencement date for Stages 2 and 3 as of 1 October 2021 and estimated completion date as 1 January 2025. Given the original estimated commencement date has since lapsed, the current commencement of construction will be dependent on the assessment process under the EPBC Act, and any proposed commencement date may be subject to change. Using the original estimated dates, the project duration is expected to be approximately 3 years, not including any delays due to unforeseen circumstances (e.g. supply of materials).

Commencement of works on Stages 2 and 3 is pending conditional requirements of the EPBC Act permit. Actual commencement of the project works will rely on revenue from the sale of stage 1 and may be delayed subject to market conditions. The duration of the project works is anticipated to be approximately 24-36 months, subject to weather and latent conditions.

While Stages 2 and 3 would utilise infrastructure developed under Stage 1, Stage 1 and the roundabout are not dependent on Stages 2 and 3 proceeding. The proposed roundabout and associated works received an amended planning permit from the Kingborough Council on 26 August 2021 under the Tasmanian *Land Use Planning and Approvals Act 1993* (LUPA Act), and Stage 1 of the Huntingfield Master Plan was approved by Kingborough Council on 1 November 2021 under the LUPA Act (no appeals were lodged).

[1] 1 Formerly known as Department of Communities Tasmania

Council have approved construction of the wetland and issued a permit which includes conditions relating to construction environmental management and vegetation protection measures. It is noted that whilst Stage 3 incorporates construction of a wetland for stormwater treatment for stages, 1, 2 and 3, a temporary stormwater treatment basin has been constructed within the Stage 1C footprint.

Works on the roundabout commenced in 2023. Works on Stage 1 also commenced in 2023. It is also anticipated Stages 2 and 3 will receive planning approval during 2025.

2.2 Location

The Site is a 68.29 ha area located at 1287 Channel Highway, Huntingfield, in the Kingborough Local Government Area (LGA) in southern Tasmania (see Figure 1). It is situated between the Channel Highway to the west and the Peter Murrell Conservation Area to the east. Peter Murrell Reserves is an area of three reserves managed by the Tasmanian Parks and Wildlife Service and is a popular recreational area. These reserves combine to cover approximately 277 ha in size, providing important habitat for a range of threatened flora and fauna species, especially threatened birds and orchids.

Most of the area of the Site (~80%) is heavily modified agricultural land. In the south-west corner of the Site is an area of native vegetation (14.7 ha). For further discussion of the natural values of the site, see section 3.

1:10,000 @ A3

0 100 200 300 400

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

- Huntingfield Site
- Cadastral Parcels
- Watercourses

Proposed Staging

- Roundabout
- Stage 1
- Stage 2 (Project Area)
- Stage 3 (Project Area)

Homes Tasmania
Huntingfield Masterplan Stages 2 and 3,
Huntingfield, Tasmania (EPBC 2020/8869)
Revegetation and Rehabilitation Plan

Job Number	32-18956
Revision	B
Date	07 Nov 2024

Huntingfield Project Area

Figure 1

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Data source: The List, Aerial Imagery and Basemaps, Cadastral Parcels and land titles; Department of Communities, Huntingfield Master Plan and Civil Design. Created by:gpullan

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2.2.1 Legislative Context

The approved action (EPBC Ref: 2020/8869) was deemed a controlled action on 19 April 2021 and was assessed under Section 75 and Section 87 of the EPBC Act by the then Department of Agriculture, Water and Environment (DAWE)[2]

A draft approval decision (with conditions) was made under section 133(1) of the EPBC Act and provided to HT on 18 July 2022, with the final conditions provided to HT on 26 September 2022. This approval has effect until 12 August 2042.

A decision to vary conditions of approval was made under section 143(1)(a) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for EPBC Act referral 2020/8869 (refer Appendix A).

2.2.1.1 Conditions of Approval Reference Table

Table 1 ***Summary of the conditional requirements of the EPBC Approval EPBC 2020/8869***

Condition	Condition Description	Relevant Section of RRP	Summary of RRP Commitments
3	To restore and protect **Forty-spotted Pardalote habitat**, the approval holder must submit a Revegetation and Rehabilitation Plan (RRP) to the department for the Minister's approval. The environmental outcomes of implementing the RRP must be to improve the extent and condition of habitat suitable for the Forty-Spotted Pardalote on the site. From the date of this variation, the approval holder must not continue the action until the RRP has been approved by the Minister in writing.	Entire RRP	The following summarises the requirements of condition 3 as addressed in the RRP: – RRP outlines site preparation activities required to assist vegetation establishment – RRP outlines revegetation and rehabilitation areas – RRP includes methodology for vegetation establishment activities – RRP provides interim milestones and completion criteria to be met – RRP includes details for the required monitoring activities and corrective actions where completion criteria are not met – HT is responsible for implementing all actions outlined in the RRP
4	The RRP must:		
4 (a)	be prepared in accordance with the **environmental management plan guidelines**;	Entire RRP	GHD on behalf of HT have prepared this RRP in accordance with the environmental management plan guidelines, with feedback from DCCEEW where relevant.
4 (b)	be developed by **suitably qualified ecologist**;	Section 13	RRP has been developed and reviewed by ecologists with relevant project experience and qualifications (see Section 13).
4 (c)	include details of specific revegetation and rehabilitation completion criteria to be achieved;	Section 8.4	The RRP includes quantitative and measurable completion criteria, based on reference site surveys. These will be assessed during annual monitoring activities have

[2] Now known as the Department of Climate Change, Energy, the Environment and Water or DCCEEW

Condition	Condition Description	Relevant Section of RRP	Summary of RRP Commitments
			been provided in Section 8.4 of the RRP.
4 (d)	include details of the methods, management actions, and timeframes for implementation, to be carried out to meet the revegetation and rehabilitation completion criteria;	Sections 6 and 11	Section 11 of the RRP provides a tabulated summary of the management actions, descriptions of the necessary information and the proposed timing for implementation of the management actions.
4 (e)	include interim milestones that set targets at regular intervals for performance objectives towards achieving the environmental outcomes and revegetation and rehabilitation completion criteria;	Section 8.3	Quantitative and measurable interim milestones were developed based on reference site surveys. These will be assessed during annual monitoring activities have been provided in section 8.3 of the RRP.
4 (f)	include the proposed timing for the submission of monitoring reports which provide evidence demonstrating whether the interim milestones have been achieved;	Section 9	Annual compliance reports will be submitted to the Department within 60 business days following the relevant 12- month period
4 (g)	include the timing for the implementation of corrective actions if monitoring activities indicate the interim milestones have not been achieved; and	Section 8.5	Where corrective actions are required, the relevant activities (e.g. weed control, tube stock planting) will be conducted during the following spring/summer period and details provided in the annual compliance report for that period.
4 (h)	include details of the design and materials of a permanent fence to be constructed to impede movement of people and vehicles between the Action area and the **native vegetation** areas and Peter Murrell Conservation Area with the exception of directing the public to one access point to Peter Murrell Conservation Area.	Section 6.6.1	RRP outlines proposed fence design and relevant design features.
5	The approval holder must commence implementing the approved RRP within 6 months of the earlier of: a. **continuing the action** or, b. the sale of any lots comprising part of the **action area**. The approval holder must continue to implement the RRP at least until the expiry of this approval.	Section 12	RRP commits to implementation timing as condition, reflected in the proposed schedule.
6	Within 6 months of the date of the approval of the RRP, the approval holder must complete installing the permanent fence in accordance with details specified in the approved RRP.	Section 6.5.1	RRP commits to construction of the fence in accordance with the proposed design.
7	To protect breeding of the **Forty-spotted Pardalote**, the approval holder must not undertake construction within the **buffer zone** between 1 August and 31 December of any given year, until the expiry of the approval.	Section 10	RRP commits to implementation timing as condition.
8	The approval holder must execute a **conservation covenant** over the **revegetation and rehabilitation areas** within 12 months of **continuing the action**. The **conservation covenant** must be placed on the	Section 7	HT will execute an irrevocable conservation covenant over the proposed revegetation and rehabilitation areas.

Condition	Condition Description	Relevant Section of RRP	Summary of RRP Commitments
	subdivision certificate of the **sealed plan**. The approval holder must: a. provide the **department** with written evidence of the **conservation covenant** being established with 5 **business days** of the executing of the **conservation covenant;** and, b. ensure that the **conservation covenant** over the **revegetation and rehabilitation areas** remains in place at least until the expiry date of this approval.		Methods for implementing the conservation covenant are provided. Evidence of the conservation covenant will be provided to the Department in the form of a letter notification. The conservation covenant will be in perpetuity.
9	Prior to transferring or selling any residential land comprising part of the **action area**, the approval holder must place a **restrictive covenant relating to cat management** on each title and on the sealed plan. Each **restrictive covenant relating to cat management** must require that: a. the owner of the lot must not introduce or keep any cat, unless the **general manager** has accepted in writing an application by the lot owner for the keeping of one or two cats which demonstrates that the owner has the physical means and commitment to ensure that any cat will be humanely contained within that owner's lot boundary at all times under penalty of a severe fine or the permanent removal of the cat if it is found to exit the lot boundary; b. if the owner rents the property, the owner will ensure that any prospective tenant is made aware as part of any advertising of the property and in any lease document of the existence and requirements of the **restrictive covenant relating to cat management** the covenant; c. if the owner attempts to sell the property, the owner will ensure that any prospective buyer is made aware as part of any advertising of the property and in any contract of sale documentation, of the existence and details of the **restrictive covenant relating to cat management** the covenant; and d. no cat will be allowed on public land that comprises part of the **action area**. The approval holder must: a. not transfer or sell any residential land comprising part of the **action area** unless a **restrictive covenant relating to cat management** has been placed on the sealed plan; b. notify the department in writing, within 20 business days of a **restrictive covenant relating to cat management** being placed on the sealed plan; of: i. the date the **restrictive covenant relating to cat management** was placed on the sealed plan, and ii. the details of the **restrictive covenant relating to cat management** placed on the sealed plan; and c. ensure, once in place, **the restrictive covenant relating to cat management** remains in place on the **sealed plan** at least until the expiry date of this approval.	NA	HT will place an irrevocable restrictive covenant relating to cat management on each title and on the sealed plan.

3. Environmental Setting

A range of surveys have been previously completed on the Huntingfield site. These are described below.

- Natural values assessment conducted by Sinclair Knight Merz (SKM) in May 2009 for the Huntingfield Site
- Natural values assessment conducted by GHD in 2019 (GHD, 2019) for the Huntingfield Site
- Natural values assessment conducted by GHD in October 2020 for the footprint of the proposed roundabout and associated upgrades on the Channel Highway
- Site visit conducted by North Barker Ecosystem Services (NBES) to inform a Significant Impact Assessment for the broader Huntingfield Masterplan

3.1 Vegetation Communities

Previous surveys recorded the Site as dominated by agricultural land (FAG), with small portions regenerating cleared land (FRG) and native vegetation (*Eucalyptus amygdalina* forest and woodland on sandstone [DAS]; *Eucalyptus ovata* forest and woodland [DOV]). No threatened flora species were identified during any of the previous field surveys[3] [4].

A patch of native vegetation, located at the southern-most extent of the Site is dominated by Eucalyptus amygdalina forest and woodland on sandstone (DAS)[4]. This community is listed as a Threatened Native Vegetation Community (TNVC) under the Tasmanian *Nature Conservation Act 2002* (NC Act). Within the DAS vegetation, both *E. obliqua* (in drainage lines) and *E. viminalis* (on deeper soils) are sub or co-dominant.

A small area (0.27 ha) of *Eucalyptus ovata* forest and woodland (DOV) occurs on the drainage line to the north of the DAS vegetation. This community is listed as a TNVC under the NC Act and can represent the Critically Endangered Threatened Ecological Community (TEC)[5], listed under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). However, given the size and condition of the patch, the patch of DOV is unlikely to meet the condition thresholds or minimum patch requirements of the TEC[6].

Within the Site, there are five largely intact patches of *E. viminalis*, substantial enough to support Forty-spotted pardalote (FSP) within the overall DAS vegetation; patch one (1.1 ha), patch two (0.77 ha), patch three (1.32 ha), patch four (0.27 ha) and patch five (0.06 ha)[7].

Directly adjacent to the east of the approved action are the 'Peter Murrell Reserves', including the Peter Murrell State Reserve (PMR), the Peter Murrell Conservation Area, and a public reserve all managed by Parks and Wildlife Service. These reserves are primarily *E. amygdalina* forest (DAS), with small pockets of *Leptospermum scoparium* heathland and scrub (SLS), and buttongrass communities.

3.2 Fauna

According to the available databases, the Site and the surrounding local area contains previous records for several threatened fauna species protected under the EPBC Act. These species include:

- *Pardalotus quadragintus,* Forty-spotted Pardalote (Endangered)
- *Lathamus discolor,* Swift Parrot (Critically endangered)
- *Aquilla audax fleayi,* Tasmanian Wedge-tailed Eagle (Endangered)
- *Tyto novaehollandiae castanops,* Tasmanian Masked Owl (Vulnerable)
- *Perameles gunnii*, Eastern Barred Bandicoot (Vulnerable)
- *Dasyurus maculatus,* Spotted-tailed Quoll (Vulnerable)
- *Sarcophilus harrisii,* Tasmanian Devil (Endangered)

[3] GHD 2021
[4] NBES 2020
[5] Listed as Tasmanian Forests and Woodlands dominated by black gum or Brookers gum (*Eucalyptus ovata / E. brookeriana*)
[6] Tasmanian Forests and Woodlands dominated by Eucalyptus ovata (black gum) or *E. brookeriana* (Brookers gum)
[7] Iijima 2010

– *Antipodia chaostola subsp. leucophaea,* Tasmanian Chaostola Skipper (Endangered)

While having the potential to occur, most of these species' habitat is either limited or of marginal condition within the Site. Therefore, most of these species are not considered likely to be significantly impacted by the proposed development, according to the EPBC Act significant impact criteria. The exception is the Forty-spotted Pardalote (FSP).

The FSP is an extremely restricted species which has become extinct across most of its former Tasmanian range. The species is endemic to Tasmania and is now largely confined to known populations on Maria Island and Bruny Island in southern Tasmania[8]. The FSP inhabits lowland dry sclerophyll forests and woodlands that support a significant component of white gum (*E. viminalis*) in the tree canopy layer.

The species exhibits an exclusively dependent foraging relationship with one species of eucalypt; *E. viminalis,* which is considered critical for their survival[9][10]. As described in Section 3.1, there are five patches of *E. viminalis* nesting habitat or as a foraging habitat identified in the south of the Site.

Patches one, two and three contain trees that are large enough for foraging and potential breeding, and are sufficiently large to accommodate a colony, albeit a small one[11]. Patch four is suitable as a foraging patch only, and patch five, although small, contains larger trees (trees > 70 cm DBH) capable of supporting hollows large enough for FSP breeding.

3.2.1 Threats to Forty-spotted Pardalote

The following information aims to provide a generalised summary according to the relevant literature of the identified threats to the FSP in Tasmania.

This should not be considered as an assessment of the impacts of the proposed development, which has been provided in previous documentation submitted to DCCEEW in support of the EPBC Act approval (EPBC Ref: 2020/8869).

Tasmania's Threatened Fauna Handbook[12] and DCCEEW[13] indicated the key threats to the FSP include:

- Any removal of mature white gum (*E. viminalis*) (large or small stands and even single trees) or disturbance to other trees in or near colonies.
- Loss of mature white gum (*E. viminalis*) throughout the species range, particularly in areas close to known colonies.
- Loss of nest hollows through felling mature timber and firewood collection.
- The misconception that felling mature white gum (*E. viminalis*) in key areas can be compensated for by planting seedlings.
- Potential competition and displacement by aggressive birds like laughing kookaburra, noisy miner and common starlings moving into disturbed areas.
- Climate change. *Eucalyptus viminalis* is known to be highly susceptible to heat stress due to changing climatic factors.

The conservation advice from the Threatened Species Scientific Committee[14] summarises the threats to this species and they are included in Table 2 below.

[8] Alves *et al.* 2021
[9] TSS 2022
[10] Bryant 2010
[11] Bryant 2020
[12] Bryant & Jackson 1999
[13] Mitchell 2015
[14] TSS 2016

Table 2 Threats impacting FSP (P. quadragintus) from the species Conservation Advice

Threat Factor	Threat type and status	Evidence base
Habitat loss and fragmentation		
Loss of white gum (*E. viminalis*) woodlands	Known past and current	FSP's rely on white gum (*E. viminalis*) woodland habitat. Any loss can lead to a loss of mature breeding individuals[15]
Fragmentation	Known past and current	Increased distance between patches reduces dispersal opportunities and makes it unlikely areas will be recolonised if local extinctions occur[15]
Reduced patch size	Known past and current	Reduced patch size can be caused by a range of factors, including fire, timber harvesting and stock grazing. Reduced patch size can lead to invasion of habitat by invasive honeyeaters such as the noisy miner. FSP's are not known to exist in habitat fragments where noisy miners occur[16][17][18][19]
Habitat disturbance by development	Known past and current	Impacts from housing developments, roading and predation by domestic pets has been demonstrated as direct threat to the FSP[20]

The FSP Recovery Plan[15] notes the most significant threat to the survival of this species is related to the loss or decline in area and fragmentation of suitable habitat (dry sclerophyll forests supporting *E. viminalis*). The FSP favours relatively unmodified forest, and a positive relationship is suggested between security and colony size[21]. Any loss of suitable habitat can lead to the loss of breeding colonies, increase fragmentation and reduction in dispersal opportunities[15]. Simultaneously, small distances of cleared land between patches of suitable habitat can be sufficient to isolate colonies and hinder the dispersal ability of the local species[15].

Bryant[21] noted that some evidence of *E. viminalis* tree decline was noted along Coffee Creek within the Peter Murrell Conservation Area, however the area appeared to retain adequate mature white gum (*E. viminalis*) in good condition to support the previous colony of an estimated 10 birds. This suggests other threats impacting the Peter Murrell Conservation Area colony, including potential competition and displacement from aggressive avian species.

Human activity, noise and other habitat disturbances are likely to be contributing factors in the decline of this and other sensitive bird species[22]. This is evident in changing and expanding land use in the Howden area which has led to an increased visitation to the Peter Murrell Conservation Area, where estimated colony size has decreased from 20 birds to 10 birds from 1995 to 2010.

A recent study (Edworthy 2017[22]) investigated the impacts of a native fly parasite (*Passeromyia longicornis*) on the nestling mortality of FSP through a parasite elimination experiment. The study found 89% of nestlings fledged from nests where the parasite was experimentally removed, compared to just 8% in untreated nests[22]. The study also compared parasite virulence and intensity between similar avian species; FSP and Striated Pardalote (*P. striatus)*. It found virulence to be similar between the species, however, intensity was higher in FSP nests.

The above results indicate native fly parasites can become a principal source of mortality in their hosts and significantly impact the persistence of a FSP colony.

Current research[23] has also suggested FSP foraging resources (*E. viminalis*) are susceptible to climate change. *E. viminalis* has experienced large dieback due to a decrease in rainfall and precipitation[24], and is vulnerable to drought[25]. This would have negative results for this species, as a specialist avian species of low population, distribution and dispersal rates, indicating species vulnerability where foraging resources are reduced[26].

[15] TSS 2006
[16] TSS 2006
[17] Woinarski & Bulman 1985
[18] Brown 1986
[19] Woinarski 1985
[20] TSS 2012
[21] Bryant 2010
[22] Edworthy 2017
[23] Wing 2020
[24] Jurskis 2016
[25] Li *et al.* 2018
[26] Foden et al. 2013

3.2.2 Identified Impacts

Summarising the information provided in the Additional Documentation Report (ADR), the direct impacts of the approved action include:

- Removal of native vegetation during construction
- Increase in the introduction of invasive flora species and pathogens acting to degrade the condition of the *E. viminalis* patches

Indirect impacts of the approved action include:

- Collision with human-made structures and vehicles during the construction and post-completion of the development.
- Human disturbance of bird species via bushwalkers and nature visitors, rubbish dumping.
- Increase in feral and domestic species, including noisy miner (*Manorina melanocephala*) and European starling (*Sturnus vulgaris*), resulting in potential aggressive exclusion of forty-spotted pardalote.
- Disturbance of threatened species.

3.2.3 Risk Assessment

This section is provided to assess the likelihood and consequence of the direct and indirect impacts to the FSP as identified in the ADR documentation and outlined in section 0. The following assessment was developed in accordance with Section 4 of the Guidelines and assessed using the information provided in Table 3 below. The final risk assessment is provided in Table 4.

Table 3 ***Summary of risk assessment matrix***

RISK MATRIX					
Likelihood (L): A qualitative measure of likelihood how likely is it that this event/circumstances will occur both before and after management activities are implemented					
Highly likely	Is expected to occur in most circumstances				
Likely	Will probably occur during the life of the Project				
Possible	Might occur during the life of the Project				
Unlikely	Could occur but considered unlikely or doubtful				
Rare	May occur in exceptional circumstances.				
Consequence (C): Qualitative measure of what will be the consequence/result if the issue does occur					
Minor	Minor incident of environmental damage that can be reversed (*e.g. short-term delays to achieving strategy objectives, implementing low-cost, well-characterised corrective actions*).				
Moderate	Isolated but substantial instances of environmental damage that could be reversed with intensive efforts (*e.g. short-term delays to achieving strategy objectives, implementing well-characterised, high cost/effort corrective actions*).				
High	Substantial instances of environmental damage that could be reversed with intensive efforts (*e.g. medium-long term delays to achieving objectives, implementing uncertain, high-cost/effort corrective actions*).				
Major	Substantial instances of environmental damage that could be reversed with intensive efforts (*e.g. medium-long term delays to achieving objectives, implementing uncertain, high-cost/effort corrective actions*).				
Critical	Severe widespread loss of environmental amenity and irrecoverable environmental damage. (e.g. strategy objectives are unable to be achieved, with no evidenced mitigation strategies).				
Final Risk Rating (R): A function of multiplying Likelihood (L) and Consequence (C)					
Likelihood	Consequence				
	Insignificant	**Minor**	**Moderate**	**Major**	**Catastrophic**

		A	B	C	D	E
Highly Likely	5	Low	Moderate	Significant	Extreme	Extreme
Likely	4	Low	Low	Moderate	Significant	Extreme
Possible	3	Negligible	Low	Moderate	Significant	Extreme
Unlikely	2	Negligible	Negligible	Low	Moderate	Significant
Very Unlikely	1	Negligible	Negligible	Low	Moderate	Moderate

Table 4 Risk assessment of direct and indirect impacts

Risk	Likelihood	Consequence	Risk	Mitigation Measures	Revised Risk
Removal of native vegetation during construction	Unlikely	High	Moderate	No clearing of native vegetation will occur as part of the approved action The footprint of the approved action area will be clearly flagged on the ground to ensure no clearing occurs within native vegetation areas	Low
Introduction and/or spread of invasive flora species and pathogens acting to degrade the condition of the *E. viminalis* patches	Possible	Moderate	Moderate	Implementation of weed management activities to control in the invasion and spread of invasive flora Relevant activities will be conducted in accordance with *Phytophthora* management practice	Moderate
Collision with man-made structures and vehicles during the construction and post-completion of the development	Rare	High	Low	Given the predicted low abundance of the species at the site, the impacts of this are not expected to be significant	Low
Human disturbance of bird species via bushwalkers and nature visitors, rubbish dumping	Likely	Moderate	Moderate	Fencing is proposed to impede the movement of people and vehicles between the action and the native vegetation areas	Low
Increase in feral and domestic species	Possible	Moderate	Moderate	HT will execute a restrictive covenant relating to cat management on the sealed plan	Moderate
Disturbance of threatened species	Likely	Moderate	Moderate	HT will implement 100 m buffer zones for construction activities during the FSP breeding season (between 1 August and 31 December)	Low

3.3 Site Photographs

The following figures (Figures 2-7) are provided for further site context and show *E. viminalis* patches at the site.

Figure 2 ***Patch 1 containing E. viminalis canopy trees suitable for FSP***

Figure 3 ***Patch 2 containing E. viminalis canopy trees suitable for FSP***

Figure 4 ***Patch 3 containing E. viminalis canopy trees suitable for FSP***

Figure 5 ***Patch 3 containing E. viminalis canopy trees suitable for FSP***

Figure 6 ***Agricultural land (FAG) adjacent to native vegetation proposed for revegetation***

Figure 7 ***Regenerating cleared land (FRG) within/adjacent to native vegetation proposed for rehabilitation***

3.4 Climate

The Site is located approximately 13 km from the nearest Bureau of Meteorology weather station located in Hobart (Ellerslie Road) TAS. The mean maximum and minimum temperature are 17°C and 8.4°C respectively, and mean annual rainfall is 612.2 mm. Monthly averages are shown in Figure 8.

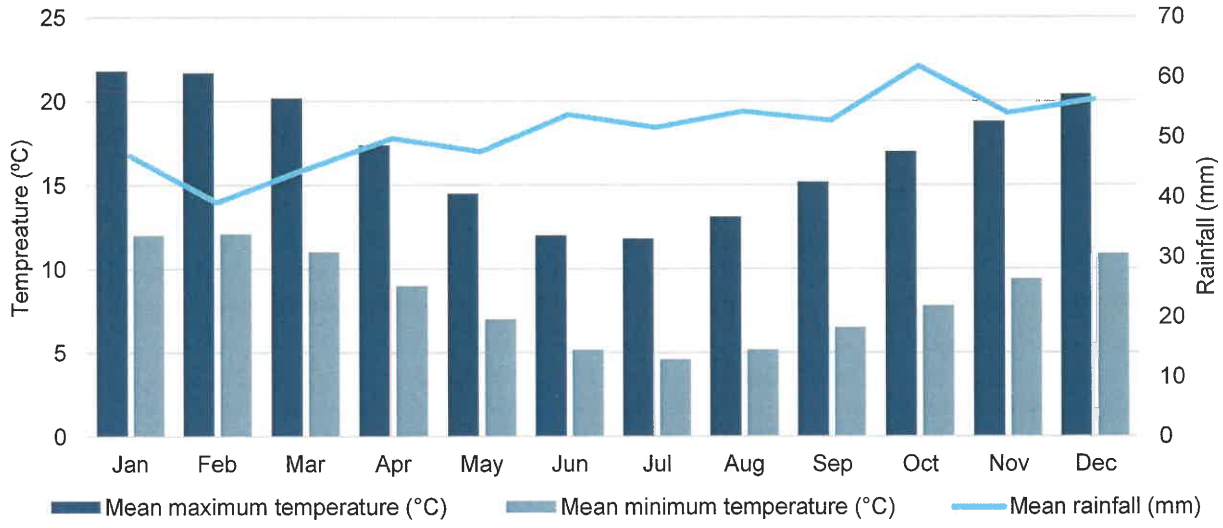

Figure 8 ***Climate statistics for the Hobart (Ellerslie Road) weather station***

3.5 Soil and Geology

The Site is located on Tertiary basalt (Tb) colluvium and bedrock, described as having Basalt (tholeiitic to alkalic) and related pyroclastic rocks. This geology has resulted in imperfect to poorly drained grey-brown soils (GBb) on undulating to rolling (3-32%) land[27].

3.6 Aboriginal Heritage

A 2012 report by Cultural Heritage Management Tasmania (CHMA) detailed an extensive investigation into the feasibility of the Huntingfield site with regard to Aboriginal Cultural Heritage.

A previous assessment of the site identified one Aboriginal site as defined by the *Aboriginal Heritage Act 1976;* registered site TASI 7734. This registered site partially includes the proposed footprint of the Huntingfield development.

Further archaeological investigations within the Huntingfield site by CHMA described TASI 7734 as a complex site, comprising a small stone procurement site and an associated spatially extensive, moderate density artefact scatter. The report identified moderate to high artefact density along the western margins of Coffee Creek, as well as a small section of the northern margins of an ephemeral creek, which is a tributary of Coffee Creek. The report included consultation with an Aboriginal Heritage Officer (AHO) and recommendations for the Huntingfield development.

Management measures should be undertaken in consultation with Aboriginal Heritage Tasmania (AHT) with the intent to limit the impacts of the revegetation activities.

[27] LISTmap

4. Goals & Objectives

4.1 Rehabilitation Goals

The primary goal of the RRP is to rehabilitate vegetation within the Site to mitigate against potential direct and indirect impacts of the approved action (see Section 0).

Where native vegetation is present in a reasonable condition, rehabilitation will only require the implementation of weed control activities. For areas that are present in degraded, poor condition or completely devoid of native vegetation (cleared agricultural land), more intensive management, including vegetation establishment and weed control, will be required.

Activities implemented in accordance with the RRP will specifically revegetate areas lacking in native vegetation to a representative vegetation community similar to that of the reference sites. The resulting vegetation is aimed at providing future habitat for the FSP. Additionally, currently vegetated areas known to provide potential nesting or foraging habitat for the FSP (see Section 0) will be improved in their condition through management and rehabilitation activities.

4.2 Rehabilitation Objectives

To mitigate the direct and indirect impacts to FSP, the RRP has the following objectives:

- Maintain current and future natural nesting habitat.
- Increase the extent of available suitable habitat for FSP's within the approved action area by revegetating areas of agricultural land (TASVEG code FAG) with native flora species associated with the relevant reference sites
- Improve the condition of the existing suitable habitat for FSP's within the approved action area by rehabilitating areas of *Eucalyptus amygdalina* forest and woodland on sandstone (TASVEG code DAS) vegetation known to support FSP habitat through planting with similar species and other management activities including weed control, wood hooking prevention and protecting young eucalypts from increased mammal browsing.
- Undertake management activities until the completion criteria are met
- Establishment of a corridor to facilitate movement of native fauna species between the Huntingfield Estate and Peter Murrell Conservation Area, with a focus on FSP
- Activities are undertaken in accordance with the Plan to meet the requirements of the completion criteria
- Habitat suitable for FSP foraging and breeding within the approved action area is secured in perpetuity.

5. Revegetation & Rehabilitation Areas

The areas of the Site proposed for revegetation and rehabilitation comprises:

- 4.3 ha of *Eucalyptus amygdalina* forest and woodland on sandstone (DAS)
- 0.3 ha of *Eucalyptus ovata* dry forest and woodland (DOV)
- 6.4 ha of cleared pasture (FAG)
- 1.5 ha of regenerating cleared land (FRG)

This equates to a total of 12.5 ha of revegetation and rehabilitation and includes vegetation in close proximity to the Coffee Creek tributary. See Appendix B for maps of revegetation and rehabilitation areas.

5.1 Revegetation Areas

The maximum area proposed for revegetation activities is comprised of the combined regenerating cleared land (FRG) and agricultural land (FAG) mapped vegetation and covers a total extent of 7.9 ha. See Figures 6 & 7 above.

5.1.1 Wetland

As part of the implementation of the Huntingfield Master Plan, a constructed wetland is proposed at the south-west corner of the site. The wetland covers an approximate area of 1.48 ha and includes a sediment basin, four macrophyte zones containing planted natives, a dewatering area, access tracks and a bypass channel. No natural values have been previously recorded and the extent of the proposed wetland site is mapped as FAG vegetation.

This wetland will act as a water retarding basin with functional properties including surface water runoff capture and storage, natural water filtration (including suspended solids (SS), Phosphorus (P), Nitrogen (N)) and fauna habitat installation. The macrophyte areas will be planted in four discrete zones including a submerged zone (0.07 ha total), a deep zone (0.18 ha), a shallow zone (0.19 ha), an ephemeral zone (0.20 ha) a dryland zone (0.19 ha). Each zone will be planted with a mix of native species appropriate for the expected submersion based on water levels.

The extent of the revegetation activities proposed within the wetland area are encompassed within the overall revegetation and rehabilitation of the Site.

5.2 Rehabilitation Areas

The maximum area proposed for rehabilitation activities is comprised of the combined DAS and DOV mapped vegetation and covers a total extent of 4.6 ha. See Figures 2 – 5 above.

6. Methods

To meet the objectives outlined in Section 0, the RRP outlines the following actions to be implemented.

Actions in the RRP have be guided by relevant publicly available literature and documentation e.g. Greening Australia *Revegetation Techniques – A guide for establishing native vegetation in* Victoria[28]. The site-specific revegetation/rehabilitation activities implemented may require alteration. These would be developed by the selected contractor according to relevant practice guidance and adaptive management.

6.1 Reference Sites

To ensure that the rehabilitation activities are effective in restoring the appropriate vegetation and habitat, reference information has been derived from previous flora and vegetation surveys within the site[29,30,31,32]. In addition to information derived from previous reports, descriptions of the target vegetation communities are provided in the TASVEG vegetation benchmarks for 'Dry Eucalypt Forest and Woodland' communities[33].

Based on the previous survey data, four reference sites were selected within the potential habitat patches for FSP (see Appendix B). All four patches are mapped as DAS and contained *E. viminalis* (white gum) habitat as a sub or co-dominant canopy tree.

A 10m x 10m quadrat was established in each of the four reference sites with baseline data collected during a field assessment. This field assessment of each reference site was conducted on 30 November 2022, which aligned with the flowering period for the majority of Tasmanian flora to aid in successful species identification. See Appendix B for location of the reference sites.

The following was information recorded during the field assessments:

- Total species richness (averaged across quadrats)
- Average species richness (per quadrat)
- Tree species richness (per quadrat)
- Shrub species richness (per quadrat)
- Tree density stems/ha (per quadrat)
- Shrub density stems/ha (per quadrat)
- General weed coverage (%)
- Declared weed coverage (%)
- Bare ground (%)
- *E. viminalis* (white gum) stems/ha (average across quadrats)

The information collected during the field assessment was used to inform the development of specific completion criteria (see Section –).

6.2 Site Preparation

The success of revegetation relies heavily upon site preparation. These basic principles of ground preparation will assist in re-establishing natural processes and in the recruitment of seedlings. They will ultimately contribute to habitat creation within the rehabilitation/revegetation area.

The following activities will be implemented to prepare areas to be revegetated or rehabilitated:

[28] Greening Australia 2003
[29] GHD 2019
[30] GHD 2020a
[31] GHD 2020b
[32] NBES 2020
[33] See **Dry Eucalypt Forest and Woodland Vegetation Benchmarks | Department of Natural Resources and Environment Tasmania (nre.tas.gov.au)**

- Reshape the topography so that it is integrated with the surrounding landscape and has as many natural features as possible, whilst retaining stability and minimising erosion.
- Grade and contour any revegetation site(s) and rip the area to a minimum depth of 200 mm to relieve compaction.
- Design drainage lines to slow movement of water across the rehabilitation area, distribute sediment-free flows towards downslope watercourses and mimic pre-construction hydrology.
- Construct wetland at the south-west corner of the site, of an approximate area of 1.48 ha. This wetland will act as a water retarding basin with functional properties including surface water runoff capture and storage, natural water filtration (including suspended solids (SS), Phosphorus (P), Nitrogen (N)) and fauna habitat installation.
    - stream-bed control structures should be installed and the banks protected before revegetation begins, this will support revegetation of the riparian zone[34].
- Spread topsoil to a desired depth of 20 mm to 50 mm.
    - Locally sourced, clean topsoil will be used as a preference.
    - If locally sourced topsoil is unavailable, then suitable, clean, weed and pathogen-free topsoil will be used.
- Revegetation will be conducted progressively taking into account the optimal condition(s) and season(s) for achieving revegetation success.
- Install temporary fencing and signage to restrict pedestrian and fauna access to the revegetation site.
- Prior to the commencement of revegetation activities, establish eight 10m x 10m quadrats across the Site to monitor success against completion criteria.
    - This includes one photo monitoring point per quadrat.
    - GPS coordinates and compass bearings will be recorded for each photo point.
- All personnel will complete a site induction, that will include hygiene training with regards to weed and plant pathogen management requirements.
- Rehabilitation works will be undertaken under clean on entry/exit procedures
    - This includes requirement to inspect all vehicles entering the revegetation site and implementation of wash-down as required.

6.2.1 Weed Control

Weed control is important to ensure that competition for resources between weeds and the native plants or seeds is minimised. Given the activities proposed under the RRP relate to a mixture of areas free of native vegetation (FAG mapped vegetation) and areas dominated by native vegetation (DAS, DOV and FRG mapped vegetation), a combination of weed control methods will be implemented throughout the Site.

6.2.1.1 Manual Control

- Slashing: The use of a slasher or mower will be used to cut weed growth following flowering and prior to seed set
    - This method will be applied in the open areas of pasture (FAG mapped vegetation)
- Scalping: This involves the removing the upper soil profile layer, where the below ground parts of perennial weeds and the seedbank are stored. It is a particularly effective technique for controlling perennial grasses and will assist in preparing the areas of intensive revegetation. While an effective method of weed control, scalping it would not be used on hilly terrain that may erode.
    - This method will be applied in the open areas of pasture (FAG mapped vegetation)
- Hand Removal: Weeding by hand is a simple and effective method for small-scale area or sensitive sites. This method will be used as a follow up treatment prior to the weeds flowering or producing seed.
    - This method will be applied in areas consisting of remnant native vegetation where broadscale manual removal would impact native flora.

[34] NRET 2003

- This method will be applied for sensitive zones of the wetland.

6.2.1.2 Herbicides

Herbicide application is a cost effective and efficient option in open areas, but can also be used selectively, with precision, in difficult topography. This method will be applied throughout the extent of the proposed revegetation/rehabilitation areas.

Herbicide application will be utilised in several stages, including:

i. Initial herbicide treatment during the spring – summer period
ii. Secondary treatment during the following autumn
iii. Tertiary treatments approximately 6-10 weeks later
iv. Fourth treatment immediately prior to the commencement of revegetation/rehabilitation activities
v. Fifth spray with a grass-specific herbicide will likely be necessary 6-12 months after planting to control developing grass competition with establishing shrubs and trees

Herbicides will only be applied by a licenced weed management contractor and in accordance with manufacturer's instructions as provided on product label. A licenced weed management contractor will advise a suitable approach based on information obtained during the site inspection. Initial herbicide treatment will begin during the spring – summer period of the first year and before the vegetation establishment commences during the spring – summer of year 2. All weed control measures will be developed in accordance with the following documents:

– Weed and Disease Planning and Hygiene Guidelines[35]
– Weed Management Strategy and Action Plan Kingborough Municipal Area 2017 – 2027[36]

During the initial treatment, much of the treated areas will allow for broad scale herbicide application, however, as discussed further in section 6.7.1.2, in many parts of the site spot spraying, selective herbicide or manual methods will be necessary to minimise the risk of off target impact to existing native vegetation.

6.2.1.2.1 Wetland

Weed management around the wetland will utilise the following methods:

– Hand Removal: Weeding by hand is a simple and effective method for sensitive sites. This method will be used as a follow up treatment prior to the weeds flowering or producing seed.
– Herbicides in accordance with the: *Guidelines for Safe and Effective Herbicide Use Near Waterways*[37].

6.2.1.2.2 Cleared Areas

Where weed cover is high (i.e. cleared areas containing pasture grasses), a non-selective broad-spectrum herbicide formulation, such as Roundup© (glyphosate 360g/L), will be applied to achieve blanket control. Herbicide will be applied through the use of vehicular boom spray, modified hose and reel units or backpack spray units. The herbicide will be mixed to a ratio of:

– 10mL of herbicide: 1L of water
– Mix will include a surfactant (wetting agent) to maximize coverage and aid penetration of the herbicide(s) through plant leaves
– Mix will include appropriate die (red or blue)

6.2.1.2.3 Remnant Vegetation

Where in-situ vegetation contains species known to be native to Tasmania, broad-scale application of herbicide will likely result in non-target impacts and minimise the effectiveness of the conservation activities proposed under this plan. Targeted spot spraying will be used to reduce the potential for impacts to non-weed species.

[35] DPIPWE 2015
[36] KCC 2016
[37] NRET 2025

For grass weeds, a grass selective formulation such as Fusilade® Forte (13 ml/L or 6.5 L/ha) will be applied, without risking non-target impact to native grass species. Grass-selective herbicide to control perennial grass will be applied between July and August. It is noted that native grass species such as *Austrostipa spp., Austrodanthonia spp., Poa spp., Themeda spp.,* etc are present throughout the Site. Other native flora may also be sensitive to particular selective herbicide formulations. Therefore, herbicide application will be targeted to areas of higher weed cover and will be undertaken with caution to avoid non-target impacts.

For bulbous weeds, a selective formulation such as 2,2-DPA 10 g/L + Pulse® will be applied. Bulb selective herbicide to control bulbous species (e.g. *Watsonia meriana*) will be applied during September - January or when plants are flowering.

6.3 Equipment Hygiene

All machinery and equipment used for weed management and rehabilitation activities on site must follow washdown procedures in accordance with the *Tasmanian Washdown Guidelines for Weed and Disease Control* and/or the *Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania*.

6.4 Vegetation Establishment

Tubestock will be sourced from an accredited nursery and grown from local provenance seed or cuttings with genetic diversity where possible. Tubestock will be grown as tall as possible to facilitate deep planting (see section 6.4.2). Nursery staff will advise which species can be grown tall enough such that deep planting is appropriate.

Before collection, tubestock will be hardened off and in good condition.

6.4.1 Protecting Existing Emergent Eucalypts

Where existing Eucalypt seedlings (<2 m in height) have self-sown in the rehabilitation area, these individuals must be protected from browsing mammals using wire cages (or similar) once tube stock guards have been outgrown. Cages must be removed once individual trees are considered established enough to resist mammal browsing.

6.4.2 Establishing Tubestock

Tubestock will be established using a deep planting method. For example, tubestock grown to 300 mm tall will be planted with only 50-75 mm of stem above the soil surface [38]. This positions the roots closer to water and decreases water loss in hot conditions. Deep planting will also help to minimise impacts of herbivory by fauna resulting in the death of seedlings, which can re-sprout if the top of the plant is removed.

Once the initial planting works have been completed, the new vegetation must have sufficient time to establish and grow. Replacement and infill revegetation works will be conducted for where annual monitoring indicates vegetation establishment has not been successful (Section 8). Replacement of seedlings or reseeding of bare areas can be undertaken in the following vegetation establishment period. The vegetation establishment period will occur for up to 8 consecutive years following the commencement of the activities under the RRP.

Once planted tubestock have outgrown the tubestock guards, wire cages (or similar) will be used to protect seedlings from mammal browsing until trees are considered resistant to impacts of browsing.

6.4.3 Wetland

The wetland will include four macrophyte zones containing planted natives. The macrophyte areas will be planted in four discrete zones including a submerged zone (0.07 ha total), a deep zone (0.18 ha), a shallow zone (0.19

[38] WAPC 2003

ha), an ephemeral zone (0.20 ha) a dryland zone (0.19 ha)[39]. Each zone will be planted with a mix of native species appropriate for the expected submersion based on water levels.

6.4.4 Species List

This plant species list is a sample of species that are known to occur within the Kingborough LGA and will be included for the revegetation activities. The species outlined in the table below should not be considered as an exhaustive list and will be used to inform the overall revegetation activities. It is acknowledged that some of the species on the list below may be difficult to source and grow for a rehabilitation project of this scale, therefore the list should be used as a guide only. It is recommended that *Eucalyptus globulus* and *Eucalyptus ovata* plantings are restricted to the southeast and southwest corners of the rehabilitation area to ensure foraging swift parrots (*Lathamus discolor*) do not collide with windows in the housing estate.

Table 5 Indicative planting species list

Species Name	Common Name
Trees	
Acacia melanoxylon	Blackwood
Acacia verticillata	Prickly Mimosa
Allocasuarina verticillata	Drooping Sheoak
Asterotrichion discolor	Tasmanian Currajong
Banksia marginata	Silver Banksia
Bursaria spinosa	Prickly Box
Eucalyptus globulus	Tasmanian Blue Gum
Eucalyptus obliqua	Stringybark
Eucalyptus ovata	Black Gum
Eucalyptus pulchella	White Peppermint
Eucalyptus viminalis	White Gum
Shrubs	
Acacia stricta	Hop Wattle
Allocasuarina littoralis	Black Sheoak
Bedfordia salicina	Tasmanian Blanketleaf
Daviesia ulicifolia	Native Gorse
Dillwynia cinerascens	Grey Parrotpea
Dodonaea viscosa	Hopbush
Goodenia ovata	Hop Native primrose
Leptospermum scoparium	Manuka
Lissanthe strigosa	Peachberry Heath
Lomatia tinctoria	Guitarplant
Olearia phlogopappa	Dusty Daisybush
Pultenaea daphnoides	Heartleaf Bushpea
Pultenaea juniperina	Prickly Beauty
Herbs and Groundcover	
Acrotriche serrulata	Ants Delight
Astroloma humifusum	Native Cranberry
Chrysocephalum apiculatum	Common Everlasting
Clematis gentianoides	Ground Clematis

[39] WSUD 2012

Species Name	Common Name
Kennedia prostrata	Running Postman
Grasses, Lillies, Sedges, Rushes	
Diplarrena moraea	White Flag-Iris
Lomandra longifolia	Sagg
Wetland Species	
Apodasmia brownii	Coarse Twine Rush
Baloskion australe	Southern Cord Rush
Baumea juncea	Bare Twigsedge
Carex appressa	Sedge
Carex longebrachiata	Drooping Sedge
Dianella tasmanica	Tasman Flax Lily
Juncus pallidus	Pale Rush
Ficinia nodosa	Knobby Club Rush
Mazus pumilio	Swamp Mazus
Patersonia fragilis	Short Purple Flag
Xyris operculata	Tasmanian Yelloweye

6.5 Habitat Enhancement – Nest Boxes

The focus of this RRP should be revegetation and rehabilitation rather than the installation of nest boxes however it should be noted that previous research has suggested the addition of suitable nest boxes can strongly increase breeding density and site-level productivity of FSP in south-eastern Tasmania[40].

The installation of nest boxes should only be considered once revegetation and rehabilitation actions have demonstrated to be successful at providing FSP habitat and the species is confirmed persisting in the area. If nest boxes are then identified as providing a potential material benefit for the species at the site, a nest box monitoring plan should be implemented to guide the program.

6.6 Access Management

Generally, access to the revegetation areas will be restricted to increase the success rate of the program, which will be achieved through the implementation of various measures discussed below.

6.6.1 Fencing

Given the varied vegetation structure, historic land uses and topography of the Site, fencing of individual revegetation/rehabilitation plots is not feasible. To protect tubestock from natural and anthropogenic pressures and increase the likelihood of success, protection measures (e.g. tubestock guards, stake and bag) will be installed through the revegetation and rehabilitation areas. This is discussed further in Section 6.6.2.

A traditional timber and steel wire fencing system with 4 or 5 plain wires, spaced to between of 250mm - 350mm will be constructed accordance with the EPBC Act approvals (2020/8869) and the figures outlined in Appendix B. Wires utilised will include 2.8 mm - 3.15 mm galvanised high tensile plain wire.

Fencing will have two purposes:

1. to impede movement of people and vehicles between the action and the native vegetation area to the south of the Huntingfield site, however it is important to consider vehicle access to rehabilitation areas for the purposes of watering and weeding and,

[40] Edworthy 2017

2. to impede movement of people and vehicles between the action and Peter Murrell Conservation Area. This fence will also allow for the movement ground dwelling fauna species (i.e. pademelons).

Existing fence infrastructure will be incorporated into the design to save materials and limit the risk of additional ground disturbance.

The final fencing design and specifications and exact locations will be determined and delivered by the contractor engaged to deliver the works, in consultation with the appropriate stakeholders for the site (e.g. Kingborough Council, PWS).

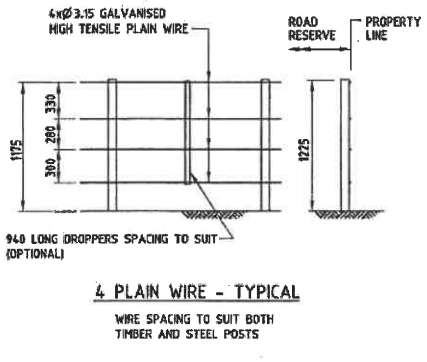

Figure 9 ***Example of 4 plain wire wooden post and wire fencing design***

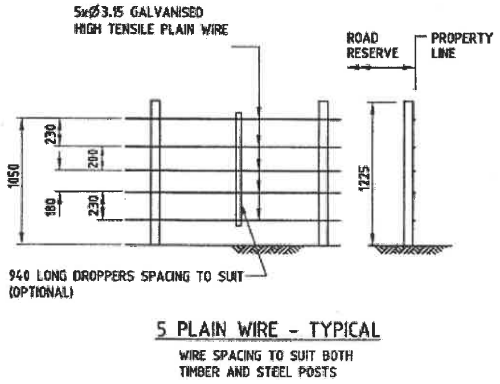

Figure 10 ***Example of 5 plain wire wooden post and wire fencing design***

6.6.2 Plant Protection

Where tubestock is planted within revegetation/rehabilitation areas, seedling protection measures (e.g. tubestock guards, stake and bag) will be installed to protect plants from grazing herbivores (e.g. rabbits) and provide a beneficial microenvironment for the seedling during early establishment, providing protection from drying winds and extreme temperatures[28]. Seedling protection measures will be installed during the vegetation establishment period.

Seedling guards will be monitored and replaced where required until the individual has outgrown the guard. When planted and self-sown seedlings have outgrown tubestock guards, wire cages should be utilised to protect plants from mammal browsing until individuals reach a sufficient size to resist browsing fauna and cages will be removed.

6.6.3 Signage

Signage will be erected to identify rehabilitation areas and should include educational material regarding the environmental or conservation value of the vegetation. The development of signage will require consultation with the Kingborough Council and PWS.

6.7 Management and Maintenance

Post-vegetation establishment management measures will be undertaken, including:

- Weed control: Weed control is imperative for successful rehabilitation, weeds may proliferate and out-compete establishing native seedlings.
  - Weeds in close proximity to newly planted seedlings will be removed by hand or by selective herbicide application. See Section – for further details on weed control measures
- Removal of seedling guards: Any installed tree guards will be removed where annual monitoring indicates the individuals have become established.

6.7.1 Post-Vegetation Establishment Weed Control

Following revegetation, weed control will occur in late winter or spring (August – November) to remove weeds that have established before and/or after vegetation establishment.

Weed control treatments will be repeated in subsequent years to reduce competition with establishing native plants and achieve weed cover completion criteria. These criteria were determined during reference site assessment and are outlined in section 8.5. Weed control will be carried out annually (at minimum). Weed management activities will be guided by monitoring inspections as outlined in section 8.

Methods will include both chemical (herbicide) and manual (hand weeding) based approaches as outlined in the following sections. Washdown procedures in accordance with the *Tasmanian Washdown Guidelines for Weed and Disease Control* and/or the *Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania* and *Guidelines for Safe and Effective Herbicide Use Near Waterways* will be followed.

6.7.1.1 Manual and Mechanical Removal

Manual and Mechanical control will be conducted in accordance with the information provided under section 6.2.1.1 and the appropriate guidelines[35,36].

6.7.1.2 Chemical Control

Chemical control will be conducted in accordance with the information provided under section 6.2.1.2 and the appropriate guidelines[35,36].

6.7.2 Dieback Management

The soil-borne water mould *Phytophthora cinnamomi* (Dieback) occurs in the broader area and may occur or have occurred previously within the Site. Dieback kills susceptible plants by attacking their root system which inhibits uptake of water and nutrient. In Tasmania, Dieback causes severe disease in the understorey, or the shrub and ground layers of the vegetation. It is considered a major threatening process which could lead to loss of plant diversity in Tasmania.

Dieback requires warm moist soils if it is to reproduce and spread. This limits its distribution in Tasmania to areas that are generally below about 700 m in altitude and prevents it affecting low rainfall areas such as the Tasmanian midlands. The vegetation types most affected in Tasmania are heathland, moorland, dry sclerophyll forest.

To ensure Dieback is not spread within the Site (and to other areas), the following management measures will be undertaken during rehabilitation works:

- Vehicles, tools, equipment and machinery will be free of all mud, soil and plant material on arrival at the site. Vehicles, tools, equipment and machinery will be thoroughly cleaned with a high-pressure hose and disinfected with bleach or fungicide product such as Phytoclean©, at an appropriate wash-down location
- If vehicles, tools, equipment and machinery are temporarily removed from the site during works they will be free of all mud, soil and plant material on return
- If required, imported fill or mulch material will be certified free of Dieback

7. Conservation Covenant

Conservation covenants (CC) are legal commitments, registered on the title of the land, which bind current and future owners in perpetuity to protect the natural values of the land. Landowners may enter into a CC to manage defined areas specifically for the purposes of nature conservation.

As per the conditions of approval (2020/8869) set out by the DCCEEW, HT will execute an irrevocable CC over the revegetation and rehabilitation areas, within 12 months of the commencement of Stage 2 and 3 of the Huntingfield Master Plan. HT will provide DCCEEW with evidence of the CC being established within 5 business days of the execution of the CC. Evidence of the CC will be provided to the Department in the form of a letter notification.

Options to secure areas of the Site in perpetuity include a CC registered in accordance with the *Nature Conservation Act 2002* and placed on the subdivision certificate of title sealed plan. This will be included either as a condition imposed on the Planning Permit issued under the LUPA Act that requires the developer to enter into a conservation covenant which is placed on each new title in the development; or a CC pursuant to the *Land Titles Act 1980* on the subdivision titles.

Given the location of the approved action, contiguous to Peter Murrell Conservation Area, revegetation and rehabilitation areas will be ceded to an authority with the appropriate land management resources with the intent to continually provide a conservation outcome (i.e. Tasmanian Parks and Wildlife Services [PWS]).

8. Ecological Monitoring

This section indicates the monitoring requirements, including information to be included in the annual reporting as required by conditions (section 2.2.1.1) of the EPBC Act approval (EPBC Ref: 2020/8869). Monitoring efforts will focus on satisfying interim milestones and final completion criteria, to determine when revegetation is considered successful.

Vegetation monitoring will take place annually at the start of summer, commencing in Year 3 (the first summer after construction, planting and seeding) and finishing in Year 8 at the earliest (depending on rehabilitation success).

FSP occupancy baseline monitoring will begin in the first seasonal quarter post the Department approval of this RRP. Temporal occupancy monitoring will begin in Year 5 of the project (outlined below)

Where qualitative monitoring indicates the completion criteria have not been met, additional actions will continue until the completion criteria are satisfied. Monitoring will collect and assess both qualitative and quantitative data. Monitoring will include a combination of both site inspections and on-ground quadrat sampling. All observations and data recorded during the monitoring activities will be included in the annual compliance reporting submitted to the DCCEEW.

The standard approach to monitor long-term changes in vegetation is using permanent 10 x 10m quadrats (Section 8.2.1)[41] [42]. Within these quadrats, both qualitative (e.g. photo points, site inspections, health checks etc.) and quantitative (data collection of specific parameters i.e. species richness) monitoring will take place. GPS coordinates from the north-west and south-east corner will be recorded.

The aim of quadrat level monitoring is to obtain consistent data to detect changes in vegetation over a time period. Sufficient replication of quadrats across the Site is required to encompass site specific objectives and natural variability.

Due to the absence of baseline monitoring for the wetland construction it is not possible to perform a comparative baseline sample and therefore completion criteria and monitoring methodologies have been implemented with reference to temporal species diversity, bare ground and weed abundance post wetland construction. A combination of qualitative (photo-point) and quantitative monitoring (table 8.4) has been adopted for the wetland area.

The outcomes of monitoring will inform the required management actions to ensure the success of the revegetation effort. For example, remedial planting will be required if seedling success is low, and if an invasion of weeds is detected, the removal or spraying of weeds will be undertaken.

8.1 Qualitative Monitoring

Qualitative monitoring provides an informed estimate of the overall revegetation success, as per the interim milestones and completion criteria, at the Site.

8.1.1 Visual Inspections

Inspections of the Site, including wetland area, will be undertaken annually in spring/summer to observe key characteristics for the overall revegetation success. These will be undertaken by suitably qualified ecologist. These include identifying:

- The presence of bare soil or potential for bare soil to establish, by:
  - Examining the stability of earthworks and drainage lines
  - Inspecting the condition of mulch, jute mesh and other sediment controls e. sediment fences and straw bales
  - Noting erosion or soil degradation due to heavy rain/flooding
- The overall site vegetation health, by:

[41] Greene 2012
[42] McNutt 2012

- Recording disturbance and grazing by herbivores (native or feral).
- Noting areas of bare ground, seedling mortality and/or poor seed germination
- Scoring seedling health (e.g. poor, good, very good)
- Noting any plant disease presence, relative abundance, and severity
- Identifying weed presence and abundance
- Identifying and recording any evidence of illegal wood collection (wood hooking). If evidence of wood hooking is apparent, further investigation may be warranted.

– The improvement and development of suitable habitat for FSP, by:
  - Assessing *E. viminalis* tree health
  - Noting *E. viminalis* seedling recruitment
  - Identifying individuals and any breeding pairs of FSP.

8.1.2 Photo-point Monitoring

Vegetation will be monitored using a photo-point method. This method provides an on-ground visual comparison of changes to vegetation over time. One corner (i.e., the north-west corner) of each 10 x 10 m quadrat will be established and photographed during each annual monitoring phase.

During annual monitoring activities in the spring/summer period, photos will be taken from the same location, at set intervals, and using the same methods (same camera settings and photos taken from the same height each time, etc.). This method will qualitatively observe and record plant density, height, structure, presence/absence of weeds, bare ground and overall vegetation condition.

Each photo will be taken from the north-west corner of the quadrat, facing to the south-east and contain approximately 10 cm of the marker pole and approximately 20% bare sky in the upper portion of the image.

Photo-point monitoring will also be employed for the wetland area and commence immediately after earthworks and establishment works have been completed. The photo point will be located at the north-west corner of the wetland and contain approximately 10 cm of the marker pole and approximately 20% bare sky in the upper portion of the image.

8.2 Quantitative Monitoring

Quantitative monitoring will be used to accurately report on the progress of the revegetation effort. Data collection from these surveys are to follow the same methodology each year, and collated data to inform temporal trends. Specifically, quantitative monitoring will be undertaken as follows:

8.2.1 Quadrat Monitoring

Quantifying seedling establishment and vegetation growth, density, and health, by establishing 10m x 10m quadrats within each revegetation/rehabilitation plot.

Based on the total extent of the revegetation and rehabilitation activities, a total of eight quadrat monitoring sites have been chosen. The eight sites were chosen to represent a mix of revegetation and rehabilitation sites, cleared and remnant vegetation and areas mapped as FSP habitat and those with no habitat.

Table 6 Summary of proposed quadrats

Quad No.	Location	Size	Orientation	Vegetation Community	Type
1	522948, 5239239	10m x 10m	NW	FAG	Revegetation
2	522855, 5239167	10m x 10m	NW	DAS	Rehabilitation
3	522837, 5238871	10m x 10m	NW	DAS	Rehabilitation
4	522871, 5238807	10m x 10m	NW	FAG	Revegetation

Quad No.	Location	Size	Orientation	Vegetation Community	Type
5	523099, 5239076	10m x 10m	NW	FAG	Revegetation
6	523253, 5238909	10m x 10m	NW	DAS	Rehabilitation
7	523513, 5238750	10m x 10m	NW	FAG	Revegetation
8	523519, 5238678	10m x 10m	NW	Likely DAS[43]	Rehabilitation

- Within each 10 x 10m quadrat, suitably qualified ecologist will measure:
  - Species richness
  - Tree species richness
  - Shrub species richness
  - Tree density (per quadrat)
  - Shrub density (per quadrat)
  - Herb, grass & sedge cover (%)
  - Weed cover
  - Bare ground (%)

8.2.2 FSP Occupancy Monitoring

8.2.2.1 Baseline Monitoring

To enable robust analysis on the efficacy of revegetation and rehabilitation actions and the presence of FSP over time, baseline occupancy monitoring will commence as soon as practicable at the site, prior to substantial rehabilitation works commencing. This will establish a current baseline of occupancy and use by FSP and allow for subsequent comparison and determination of the effectiveness of rehabilitation actions.

It is recommended that quarterly surveys based on seasons are conducted over the site for Years 1 and 2. During each seasonal survey event a total of two five-minute sampling events (on different days) will occur at each sampling point throughout the rehabilitation area. Sampling must be conducted in calm conditions, with wind of less than 20km/hr, to aid auditory detection.

Sampling points are to be determined by an ecologist experienced with the species before the first monitoring season. A distance of 100-200 m between sample points will be used as a guide and sample points will cover a range of habitat types within the rehabilitation area as well as sampling a sufficient representation of the rehabilitation area as practicable. Up to 25 sample points (but no less than 15) is appropriate to sufficiently survey the site. Approximately three sites will be sampled along Coffee Creek, adjacent to the project site to provide an understanding of occupancy in adjacent habitat.

Information to be recorded during each survey includes but not limited to;

- Presence of FSP and number of individuals.
- Activity of FSP individuals, i.e. nesting, foraging.
- Presence and numbers of aggressive bird species, including noisy miner, laughing kookaburra and common starling
- Presence and location of humans and domestic animals within the rehabilitation area.
- Evidence of illegal wood collection (wood hooking etc).

At the conclusion of baseline monitoring in Year Two a report will be produced outlining the methods (including established sampling points) and results of monitoring and submitted to the Department as part of annual compliance reporting.

[43] According to TASVEG, this location is mapped as FAG – agricultural land. Aerial imagery indicates this consists of remnant vegetation and is likely of a similar composition to the adjacent DAS mapped vegetation

8.2.2.2 Temporal Monitoring

To determine the efficacy of rehabilitation efforts for FSP, comparison of habitat use at the site over a significant period is critical. This allows for ecosystem maturation and tree (specifically *E. viminalis*) growth.

Temporal monitoring using the same methodologies and contractors (where possible) as the baseline monitoring and should be conducted beginning in Year 5 and repeated every three years in Years 8, 11, 14, 17, and 20 (Table 7). To balance robust comparison with efficiency, two survey events per quarter on survey years is proposed. An annual monitoring report outlining methods and results used should be produced at the conclusion of monitoring for that year (i.e. after the winter monitoring event each monitoring year). Within each annual report, results from each survey year should build upon results from previous monitoring years to provide an

an understanding of FSP presence or otherwise at the site through time. Annual reports should be supplied to the Department and the conclusion of each monitoring year (Years 5, 8, 11, 14, 17 and 20).

Table 7 ***Baseline and Temporal monitoring program showing baseline monitoring over Years 1 and 2 and ongoing temporal monitoring scheduled every three years until Year 20.***

	Spring	Summer	Autumn	Winter	Report
Year 1	2	2	2	2	
Year 2	2	2	2	2	Baseline Monitoring Report
Year 3					
Year 4					
Year 5	2	2	2	2	Annual Monitoring Report
Year 6					
Year 7					
Year 8	2	2	2	2	Annual Monitoring Report
Year 9					
Year 10					
Year 11	2	2	2	2	Annual Monitoring Report
Year 12					
Year 13					
Year 14	2	2	2	2	Annual Monitoring Report
Year 15					
Year 16					
Year 17	2	2	2	2	Annual Monitoring Report
Year 18					
Year 19					
Year 20	2	2	2	2	Annual Monitoring Report

8.3 Interim Milestones

To track progress towards the desired completion criteria (see Section –), the following interim milestones have been developed. These indicative milestones are currently presented in relation to an unknown baseline condition (see Section 6.1) and will be refined once the reference site assessments have been completed.

8.3.1 Weed Management

The interim milestones for weed management are:

- Annual weed monitoring activities are undertaken
- Weed control activities do no not negatively impact on vegetation establishment activities

8.3.2 Vegetation Establishment

The interim milestones for vegetation establishment are as follows:

- Vegetation establishment activities commence within during the spring-summer period of year 2
- Native species planted is consistent with the species listed from section 6.4.4

Where annual monitoring indicates vegetation establishment has not been met, corrective actions will be taken (see section 8.5).

8.3.3 Habitat Creation

The interim milestones for habitat creation are as follows:

- Baseline forty-spotted pardalote occupancy monitoring completed.
- Temporal forty-spotted pardalote occupancy monitoring commenced.

8.4 Completion Criteria

The baseline data utilised to obtain the completion criteria was derived from a range of indicators developed during the reference site assessments (see Section 6.1). The aim was to develop a purpose-specific benchmark that demonstrates success in relation to ecological characteristics. Following the completion of the reference site assessment activities, the below tables were developed to inform revegetation and rehabilitation completion criteria.

Rehabilitation projects within highly altered landscapes may struggle to reach effective levels of species richness[44] due to invasive flora dominance, grazing pressures or unforeseen circumstances (e.g. unseasonal temperatures, drought). To ensure completion criteria are achievable and provide a sufficient conservation outcome, criteria for revegetation areas are calculated as approximately 80% of the baseline data, and 60% of the baseline data for rehabilitation areas.

Annual monitoring activities will assess the eight quadrats as determined indicated in section 0 against the criteria listed below and the results outlined in the annual compliance reporting submitted to the Department.

8.4.1 Rehabilitation Sites

Table 8 Completion criteria for rehabilitation sites

Criterion	Baseline data		Measure	Completion Criteria Value	Corrective Actions
A	Species richness	Reference site surveys identified a total of 26 native species across the combined quadrats	i. Species richness (overall revegetation areas)	Rehabilitation activities to achieve a minimum species richness of 21 native species across combined quadrats	Infill vegetation establishment activities Installation of plant protection measures
		Reference site surveys identified an average native species richness of 8.75 per quadrat	ii. Quadrat species richness (average across quadrats)	Rehabilitation activities to achieve a minimum of 7 native species per quadrat	Infill vegetation establishment activities Installation of plant protection measures
		Reference site surveys identified an average native tree species	iii. Tree species richness (average across quadrats)	Rehabilitation activities to achieve a minimum of 2 native tree species per quadrat	Installation of plant protection measures

[44] Holl & Brancalion 2020

Criterion	Baseline data		Measure	Completion Criteria Value	Corrective Actions
		richness of 3 per quadrat			Installation of plant protection measures
		Reference site surveys identified an average native shrub species richness of 1 per quadrat	iv. Shrub species richness (average across quadrats)	Rehabilitation activities need to achieve a minimum of 1 native shrub species per quadrat	Infill vegetation establishment activities Installation of plant protection measures
B	Species density	Reference site surveys identified an average tree species density of 12.25 per quadrat	i. Tree density (average across quadrats)	Rehabilitation activities to achieve a minimum of 10 tree stems per quadrat	Infill vegetation establishment activities Installation of plant protection measures
		Reference site surveys identified an average shrub density of 3.5 per quadrat	ii. Shrub density (average across quadrats)	Rehabilitation activities to achieve a minimum of 3 shrub stems quadrat	Infill vegetation establishment activities Installation of plant protection measures
		n/a	iii. Tree species establishment	Annual monitoring indicates ≥75% of tree species established have persisted for a period of 4 years	Infill vegetation establishment activities Installation of plant protection measures Installation of plant protection measures
C	Herbs, sedges, grasses	Reference site surveys identified an average herb, sedge and grass density of 13.75% per quadrat	i. Herbs, sedges and grasses coverage (% cover per quadrat)	Rehabilitation activities to achieve a percentage cover of ≥13.75% per quadrat of species known to be herbs, sedges or grasses	Infill vegetation establishment activities Installation of plant protection measures
D	Weed cover	Reference site surveys identified an average coverage of weed species of 17.5% per quadrat	i. General weed coverage	Rehabilitation activities to achieve a maximum percentage cover of ≤17.5% per quadrat of weed species.	Supplementary weed control activities
		Reference site surveys identified an average coverage of Declared weeds of 4.25% per quadrat	ii. Declared weed coverage	The rehabilitation activities need to achieve a maximum percentage cover of ≤4.25% per quadrat of species known to be Declared weeds	Supplementary weed control activities
E	Bare ground	Reference site surveys identified an average bare ground cover of 23.75% per quadrat	i. Bare ground coverage (% cover per quadrat)	The rehabilitation activities need to achieve a maximum bare ground per quadrat of ≤23.75% bare ground	Infill vegetation establishment activities Supplementary weed control activities

Criterion	Baseline data	Measure	Completion Criteria Value	Corrective Actions
F	Habitat creation		The rehabilitation activities need to achieve an average minimum of 7 *E. viminalis* (white gum) stems per quadrat, as recorded at relevant reference site	Infill vegetation establishment activities Installation of plant protection measures
G	Forty-spotted Pardalote Baseline Occupancy Monitoring		A total of 16 sampling events completed over Years 1 & 2. Baseline monitoring report completed and submitted to the Department.	Further sampling events to supplement survey effort.
H	Forty-spotted Pardalote Temporal Occupancy Monitoring		A total of 48 monitoring events completed over six years concluding in Year 20. A total of six annual monitoring reports completed and submitted to the Department.	Further sampling events to supplement survey effort.

8.4.2 Revegetation Sites

Table 9 Completion criteria for revegetation sites

Crite rion	Baseline data	Measure	Completion Criteria Value	Corrective Actions
A	Reference site surveys identified a total of 26 native species across the combined quadrats	i. Species richness (overall revegetation areas)	Revegetation activities to achieve a minimum species richness of 16 native species across combined quadrats	Infill vegetation establishment activities Installation of plant protection measures
	Reference site surveys identified an average native species richness of 8.75 per quadrat	ii. Quadrat species richness (average across quadrats)	The revegetation activities need to achieve a minimum species richness of 5 native species per quadrat	Infill vegetation establishment activities Installation of plant protection measures
	Reference site surveys identified an average native tree species richness of 3 per quadrat	iii. Tree species richness (average across quadrats)	The revegetation activities need to achieve a minimum of 1 tree species per quadrat	Installation of plant protection measures Installation of plant protection measures
	Reference site surveys identified an average native shrub species richness of 1 per quadrat	iv. Shrub species richness (average across quadrats)	The revegetation activities need to achieve a minimum of 1 shrub species per quadrat	Infill vegetation establishment activities Installation of plant protection measures
B	Reference site surveys identified an average tree species density of 12.25 per quadrat	i. Tree density (average across quadrats)	The revegetation activities need to achieve a minimum of 7 tree stems per quadrat	Infill vegetation establishment activities Installation of plant protection measures

	Reference site surveys identified an average shrub density of 3.5 per quadrat	ii. Shrub density (average across quadrats)	The rehabilitation activities need to achieve a minimum of 1 shrub stems quadrat	Infill vegetation establishment activities Installation of plant protection measures
	n/a	iii. Tree species establishment	Annual monitoring indicates ≥75% of tree species established have persisted for a period of 4 years	Infill vegetation establishment activities Installation of plant protection measures Installation of plant protection measures
C	Reference site surveys identified an average herb, sedge and grass density of 13.75% per quadrat	i. Herbs, sedges and grasses coverage (% cover per quadrat)	Rehabilitation activities to achieve a percentage cover of ≥13.75% per quadrat of species known to be herbs, sedges or grasses	Infill vegetation establishment activities Installation of plant protection measures
D	Reference site surveys identified an average % coverage of weed species of 17.5% per quadrat	i. General weed coverage	The revegetation activities need to achieve a cover of ≤17.5% per quadrat of weed species	Supplementary weed control activities
	Reference site surveys identified an average % coverage of Declared weeds of 4.25% per quadrat	iii. Declared weed coverage	The revegetation activities need to achieve a maximum percentage cover of ≤4.25% per quadrat of species known to be Declared weeds	Supplementary weed control activities
E	Reference site surveys identified an average bare ground cover of 23.75% per quadrat	i. Bare ground coverage (% cover per quadrat)	The rehabilitation activities need to achieve a maximum bare ground per quadrat of ≤23.75% bare ground	Infill vegetation establishment activities Supplementary weed control activities
F	Habitat creation		The revegetation activities need to achieve an average minimum of 7 *E. viminalis* (white gum) stems per quadrat, as recorded at relevant reference site	Infill vegetation establishment activities Supplementary weed control activities
G	Forty-spotted Pardalote Baseline Occupancy Monitoring		A total of 16 sampling events completed quarterly over Years 1 & 2. Baseline monitoring report completed and submitted to the Department.	Further sampling events to supplement survey effort should any sample events be missed.
H	Forty-spotted Pardalote Temporal Occupancy Monitoring		A total of 48 monitoring events completed quarterly, every three years concluding in Year 20. A total of six annual monitoring reports completed and submitted to the Department.	Further sampling events to supplement survey effort should any sample events be missed.

I	Wetland establishment	Minimum of 8 native species planted during establishment phase. Minimum of 6 native species persist after year 3. Bare ground represents less than one eighth of the wetland surrounds. Weed coverage represent less than on either of the wetland surrounds.	Infill vegetation establishment activities Supplementary weed control activities

8.5 Corrective Actions

Table 8 and 9 provide the corrective actions to be implemented where annual monitoring determines the interim milestones (see section 8.3) or the completion criteria (see section 8.4) are not met. Corrective actions will include establishing supplementary tubestock, weed control or additional plant protection measures.

Where interim milestones are not met due to unforeseen factors, or over small areas due to issues with implementation, the relevant vegetation establishment actions including weed control and tubestock planting will be repeated. Where corrective actions are required, the relevant activities (e.g. weed control, tubestock planting) will be conducted during the following spring/summer period and details provided in the annual compliance report for that period.

Note that weed control, translocation and tubestock planting can result in variable outcomes, due to uncontrollable or unpredictable factors such as extreme weather events, seasonal variation in rainfall or temperature and differences in landform, aspect, soil or biology. In addition, if browsing by herbivores and/or physical disturbance (such as vandalism) occurs, these factors may impact outcomes within revegetation areas.

9. Reporting

9.1.1 Annual Reporting

As part of the approval conditions (2020/8869), HT is required to prepare a compliance report for each 12-month period following the date of commencement of the action. The results from the monitoring activities described above will be included in Annual Compliance Reports submitted to the Department for review. Reports will be developed and submitted post-annual monitoring activities which will take place annually at the start of summer, commencing in Year 2. As such, Compliance Reports will be submitted to the Department within 60 business following the relevant 12-month period.

Information to be provided in the Annual Compliance Report will generally follow the guidelines provided in DCCEEW Annual Compliance Report Guidelines[45] including:

- Description of activities
  - Document version control
  - EPBC number
  - Project name
  - Approval holder and ACN/ABN
  - The approved action
  - Location of the project
  - Declaration of accuracy
  - Purpose of the Revegetation and Rehabilitation Plan
  - Dates for the reporting period
  - Date of preparation of the report
- Description of works undertaken in the previous 12-month period, including:
  - Fencing, rubbish, weed control management activities
  - Revegetation or rehabilitation activities
  - Pest and weed management
  - Inspection and monitoring results
- Information relating to qualitative monitoring activities (e.g. photo point monitoring & visual inspections), quantitative monitoring (e.g. quadrat surveys), progress toward interim milestones and overall completion criteria
- Information regarding results of FSP monitoring. Annual FSP monitoring reports to be included as appendix.
- Environmental auditing
  - Evaluation of works completed against interim milestones and completion criteria
  - Identify any non-compliance and describe actions undertaken/proposed to ensure compliance and to avoid recurrence
  - EPBC approval conditions and compliance table, including:
    - Condition number
    - Condition
    - Compliance assessment – compliant, non-compliant, not applicable
    - Evidence/comments
- Identify any present trends in the monitoring data over the life of the project
- Measures to be undertaken to improve environmental performance of the project i.e. corrective actions
- New environmental risks and commitment to revise the RRP if required

[45] (DCCEEW 2023)

10. Environmental Training

All employees, contractors and utility staff working on rehabilitation site will undergo site induction training relating to environmental management issues. The approved version of this RRP will be issued to all site contractors and sub-contractors and will be made available in the site office. The induction training will address elements related to environmental management covered by this plan including but not limited to:

- Existence and requirements of this RRP
- Roles and responsibilities of site staff
- Extent and boundaries of the approved action
- Stockpile locations and management measures
- Responsibilities for the management and protection of flora and fauna (specifically the FSP and related habitat), including weed control measures
- Locations of mapped FSP habitat and the conditioned seasonal works restrictions and the buffer zones
- Conditional reporting requirements relevant to the approved action

Records of training will be maintained and include:

- Name of person receiving the training
- Name of the trainer
- Date of training
- Summary of the training given

11. Management Actions

Unless stated otherwise in this document, HT (or pursuant department) will be solely responsible ensuring the implementation of this RRP over a 20-year period. A period of 20 years is considered appropriate to allow sufficient time to implement the actions and monitor the outcomes required to meet the conditional responsibilities outlined in the EPBC approval (2020/8869) and the completion criteria outlined in this document. Where annual monitoring and reporting indicates all completion criteria have not been met after a period of 20 years, HT will remain responsible for the site and for implementing any required management actions.

Once the completion criteria have been met, the tenure of the revegetation areas and remnant native vegetation will be ceded to a relevant management authority and continued to be managed for conservation purposes.

At the time of preparation of the RRP, preliminary discussions between HT and DNRET have occurred, and as such HT will remain solely responsible for the ownership and management until an appropriate arrangement is confirmed. During negotiations with management authorities regarding the ongoing Huntingfield tenure, HT will consult with DCCEEW on any conditional implications with respect to the EPBC approval (EPBC 2020/8869).

The following table provides a summary of the management actions required for the implementation of this RRP, the proposed timing, the authority responsible for the delivery of the actions and the completion criteria related to that action.

11.1 Key Actions and Responsibilities

Table 10 ***Summary of key actions required under the RPP and the authority responsible as per the EPBC approval and the authority responsible for the delivery of the action***

Action	Management Activities	RRP Section	Timing	Responsible Authority	Delivery Authority	Completion Criteria
Pre-vegetation establishment activities						
Reference site survey	Establish 10m x 10m quadrats	6.1	Completed (November 2022)	Homes Tasmania	GHD	Undertaken by GHD ecologists
Site preparation including pre-vegetation establishment weed control	Conduct weed control activities including chemical and manual control	6.2	End of Year 1	Homes Tasmania	Weed control contractor engaged to deliver the required weed management activities	Initial treatment of herbicide applied during the spring – summer period of year 1
Site preparation	Site preparation of revegetation areas will first be undertaken including: – Reshape the topography with the surrounding landscape and contains natural features, whilst retaining stability and minimising erosion – Grade and contour revegetation site(s) and rip the area to a minimum depth of 200mm to relieve compaction – Spread topsoil to a desired depth of 20mm to 50mm	6.3	End of Year 1	Homes Tasmania	Revegetation contractor engaged to deliver the required RRP activities	Site preparation activities completed
Fencing signage and access restrictions						
Habitat protection fencing	Install permanent fence to impede movement of people and vehicles between the action and native vegetation to the south of the Huntingfield site mapped to contain Forty-spotted Pardalote habitat patches – Fencing to allow fauna movement	6.5.1	Within 6 months of the date of approval of the RRP	Homes Tasmania	Contractor engaged to deliver the required fencing activities	Fencing installed between approved action and the native vegetation to the south of the Huntingfield site
Boundary fencing	Install permanent fence to impede movement of people and vehicles	6.5.1	Within 6 months of the date of approval of the RRP	Homes Tasmania	Contractor engaged to deliver the required fencing activities	Eastern boundary fence constructed

Action	Management Activities	RRP Section	Timing	Responsible Authority	Delivery Authority	Completion Criteria
	between the action and Peter Murrell Reserve – With the exception of directing the public to one access point to Peter Murrell Conservation Area – Fencing to allow fauna movement					
Signage installation	Install signage at appropriate locations around the rehabilitation/revegetation boundary which indicate landownership, purpose and tenure	6.5.3	End of Year 2 post fencing installation	Homes Tasmania	Contractor engaged to deliver the required activities	Signage installed
Fencing maintenance	Maintain boundary fencing as directed by annual monitoring	6.5.1	Ongoing for the life of the RRP[46]	Homes Tasmania	Contractor engaged to deliver the required fencing activities	Fencing and signage maintained for the life of the RRP[46]
Vegetation establishment activities						
Revegetation of cleared areas	Spread seed mix over revegetation and rehabilitation sites Install tubestock within areas of revegetation, including wetland	6.3.1	Spring – Summer Year 2	Homes Tasmania	Contractor engaged to deliver the required activities	Annual monitoring indicates all eight quadrats have met their completion criteria as outlined in Section 8.5 No corrective actions required
Rehabilitation of areas containing remnant vegetation	Install tubestock within areas of rehabilitation	6.3.1	Spring – Summer Year 2	Homes Tasmania	Contractor engaged to deliver the required activities	Annual monitoring indicates all eight quadrats have met their completion criteria as outlined in Section 8.5 No corrective actions required
Plant protection	Install plant protection within areas of revegetation and rehabilitation i.e. tubestock guards, stakes and bag	6.5.2	Spring – Summer Year 2	Homes Tasmania	Contractor engaged to deliver the required activities	Plant protection measures installed within areas of revegetation and rehabilitation

[46] After which time the management of the site will be ceded to a responsible authority (i.e. PWS or KC)

Action	Management Activities	RRP Section	Timing	Responsible Authority	Delivery Authority	Completion Criteria
Post vegetation establishment management						
Weed control	Conduct targeted weed management activities within areas revegetation and rehabilitation	6.6.1	Annually from year 2 onwards	Homes Tasmania	Weed control contractor engaged to deliver the required RRP activities	Weed control measures completed Year 8 annual monitoring indicates the percentage of weed cover is <17.5% within all quadrats
Corrective actions	Infill planting using tubestock	8.6	Annually where required from year 3 onwards	Homes Tasmania	Contractor engaged to deliver the required activities	Annual monitoring indicates all eight quadrats have met their completion criteria as outlined in section 8.5
Land tenure management						
Establishment of conservation covenant	Secure the ongoing tenure of the areas covered by revegetation or rehabilitation activities through the development of a conservation covenant registered in accordance with the *Nature Conservation Act 2002*	7	Within 12 months of the commencement of the action	Homes Tasmania	Homes Tasmania	Revegetation and rehabilitation areas secured under Conservation Covenant
Ecological Monitoring						
Annual qualitative monitoring of revegetation and rehabilitation areas	Conduct qualitative monitoring of the site including site inspections and assessment and photo point monitoring - Ecologists will record a range of observations relating to ecological health of the site - Photos taken from NW corner of 10m x 10m quadrat facing SE	8.1	Annually during the spring – summer period post vegetation establishment in year 2	Homes Tasmania	Contractor engaged to deliver the required activities	Annual monitoring indicates all eight quadrats have met their completion criteria as outlined in Section 8.5
Annual quantitative monitoring of revegetation and rehabilitation areas	Conduct survey over eight pre-established 10m x 10m quadrat sites within revegetation and rehabilitation areas	8.2	Annually during the spring – summer period post vegetation	Homes Tasmania	Contractor engaged to deliver the required activities	Annual monitoring indicates all eight quadrats have met their completion

Action	Management Activities	RRP Section	Timing	Responsible Authority	Delivery Authority	Completion Criteria
	Ecologists will assess: – Species richness (site wide) – Quadrat species richness (average across quadrats) – Tree species richness – Shrub species richness – Tree density (per quadrat) – Shrub density (per quadrat) – Herb, grass & sedge cover (%) – Weed cover – Bare ground (%) – Determine breeding utilisation		establishment in year 2			criteria as outlined in section 8.5
Baseline FSP Occupancy Monitoring	Two surveys conducted quarterly to determine species presence for Years 1 & 2.	8.2.2	Quarterly over the first year beginning Spring Year 1 and continuing for two years (totalling 16 sample events)	Homes Tasmania	Contractor engaged to deliver the required activities	A total of 16 sampling events completed over Years 1 & 2. Baseline monitoring report completed and submitted to the Department.
Temporal FSP Occupancy Monitoring	Two surveys conducted quarterly every three years beginning Year 5 and concluding Year 20.	8.2.2	Quarterly every third year beginning Year 5 and concluding Year 20.	Homes Tasmania	Contractor engaged to deliver the required activities	A total of 48 monitoring events completed over six years concluding in Year 20. A total of six annual monitoring reports completed and submitted to the Department.

12. Schedule

The implementation of the management actions required under this RRP (see section 11.1) will commence during the first spring-summer period post the approval of the document by the Department, and continue for a period of 20 years or until the relevant completion criteria have been met. Temporal FSP Monitoring has not been included in the below table.

Table 11 Timing of proposed activities for years 1-3 relating to the implementation of the RRP

Activity	Year 1 - Spring	Year 1 - Summer	Year 1 - Autumn	Year 1 - Winter	Year 2 - Spring	Year 2 - Summer	Year 2 - Autumn	Year 2 - Winter	Year 3 - Spring
1. Planning									
2. Site Preparation									
Weed control									
Fencing									
Baseline Occupancy Monitoring									
3. Seeds and Seedlings									
Seed collection, seeding and ordering									
Plant orders and propagation									
4. Vegetation Establishment									
Tubestock planting									
5. Maintenance									
6. Vegetation Monitoring									
7. Baseline FSP Monitoring									

13. Qualifications

This document has been developed and review by suitability qualified ecologists including Dean Heinze (Senior Ecologist), Nicholas Priest (Senior Ecologist) and Mickey Dwyer (Ecologist). The CV's for each of the staff involved have been provided in Appendix C.

Dean Heinze

Project Role – Dean was the technical reviewer of the RRP and provided internal GHD quality assurance (QA) checks of the document with specific respect to the ecological benefits and constraints of the proposed activities

Experience - 20+ years

Qualifications - Qualified. Bachelor of Education (Environmental Science), University of Melbourne, 1994. Diploma in Environmental Studies – GPS/GIS Links, Riverina TAFE, 2002.

Skillset - Dean has worked as an ecologist and wildlife biologist in Tasmania and south-eastern Australia for over two decades. A strength has been to work closely with land management agencies and key stakeholders to achieve positive outcomes for biodiversity in changing and fragmented landscapes. He has provided recommendations on management and mitigation of threatened species and vegetation communities for various projects, including the preparation of permits as part of the environmental approvals process.

Dean's diverse knowledge and experience allows him to take a holistic approach to flora and fauna assessments with confidence working in a wide range of ecosystems from the highest peaks to the coast and those in between. Dean's work includes the identification, assessment and management of habitat suitable for the FSP within Tasmania.

Dean has carried out field surveys in suitable habitat for the FSP in accordance with the DEWHA '*Survey guidelines for Australia's threatened birds*', mapped the quality and extent of habitat suitable for the FSP, developed site specific management measures in accordance with the FSP Recovery Plan 2006-2010 and the *Understory Network - Habitat Management Plan for the endangered FSP 2011* to mitigate the impact to FSP habitat and/or individuals.

Project Experience

Dean is a published co-author of six scientific papers covering topics including, but not limited to, the genetic fitness and recovery of threatened species, biodiversity responses to climate change in grassland habitats and the implementation of infrastructure to assist in threatened species population viability.

Projects relevant to the FSP and suitable habitat which Dean has been involved in include:

- *Prioritisation of Threatened Flora and Fauna Recovery Actions for the Tasmanian NRM Regions*
  - Timing: 2010
  - Role: Co-author
  - Relevance: Dean was involved in the development of the 'Prioritisation of Threatened Flora and Fauna Recovery Actions for the Tasmanian NRM Regions' in 2010 whilst working with the Threatened Species Section (TSS) at Department of Primary Industries, Parks, Water & Environment (DPIPWE). This document was developed to organise and prioritise threatened species recovery actions, including those proposed to support the FSP, across Tasmania's three NRM regions.
- *Pybus Hill Quarry Rehabilitation Plan*
  - Timing: 2022 – current
  - Role: Lead technical reviewer
  - Relevance: The Pybus Hill Quarry is located on Bruny Island in Tasmania's south, known to contain a significant stronghold population for the FSP. Known records of the FSP have been located within 250m of the quarry site. *E. viminalis* is known as associated canopy tree species for all the Eucalypt vegetation communities surrounding the quarry site. GHD developed an approved plan for the rehabilitation of the quarry in accordance with the Tasmanian EPA Quarry Code of Practice. This included site preparation, establishment of vegetation which would provide suitable habitat for the FSP, fencing and plant protection measures, monitoring and reporting, completion criteria, and maintenance and weed control.
- *Huntingfield Preliminary Documentation*
  - Timing: 2021 – current
  - Role: Lead technical reviewer
  - Relevance: the Preliminary Documentation (PD) was provided to DCCEEW to support the Huntingfield EPBC Referral (2020/8869). This involved the assessment, guidance and formal sign off the proposed mitigation measures included in those documents. The proposed mitigation measures were accepted by DCCEEW and were conditioned on the approved permit.

Given this experience, Dean was able to assist in the development of the RRP and provide an authoritative assessment on the likely effectiveness of the proposed management measures.

Nicholas Priest

Project Role – Nick was involved in the RRP providing a secondary technical review as part of the internal GHD quality assurance (QA) checks of the document with specific respect to the ecological benefits and constraints of the proposed activities. Nick designed the Baseline and Temporal Monitoring programs in consultation with Dr Matt Webb.

Experience - 11+ years

Qualifications - Bachelor of Arts (Political Science), 2008; – Bachelor of Science (Environmental Management and Ecology), 2006

Relevance to Project – Nick has significant experience in surveying and the application of management activities for EPBC listed fauna species in relation to linear infrastructure upgrades, primarily the Pacific Highway upgrade in Northern NSW.

Previous experience involved targeted threatened species (flora and fauna) survey, habitat and pre-clearance surveys and implementation of long-term threatened species monitoring programs. Other experience includes ecological impact assessment, including assessment of potential impacts to threatened ecological communities, species, and their habitats.

Mickey Dwyer

Project Role – Mickey was the primary author of the Preliminary Documentation and the subsequent RRP developed to support the EPBC referral and approval (2020/8869)

Experience – 7 years

Qualifications – Bachelor of Science (Environmental Biology) with Honours, Bachelor of Arts (Sustainable Development)

Skillset - Mickey has experience in both the public (Department of Natural Resources and Environment - TAS, Department of Water and Environmental Regulation – WA) and private sector, and has worked across a wide range of disciplines, including major and minor infrastructure development, natural resource management, transport, energy, regulatory compliance and policy development.

During his time with GHD, Mickey has been involved in the development of project proposals and a range of environmental ecology and approvals roles including flora and fauna surveys and ecological assessments, Environmental Impact Assessment (EIA), regulatory approvals (EMPCA, TSPA, EPBCA, LUPA, NCA etc), policy development and the development of Environmental Management Plan's (EMP), whilst also exhibiting a strong knowledge of spatial analytics and GIS.

Relevance to Project – Mickey has been involved in natural values surveys across Tasmania, many of which included suitable habitat for the FSP, including vegetation consisting of *E. viminalis.* Projects relevant to the FSP and suitable habitat which Mickey has been involved in include:

- *Huntingfield sub-division*
  - Timing: 2021 - current
  - Role: Primary author of the PD and subsequent RRP
  - Relevance: the Preliminary Documentation (PD) was provided to DCCEEW to support the Huntingfield EPBC Referral (2020/8869). This involved the development of specific FSP and suitable habitat mitigation measures including revegetation, habitat establishment, no-go zones, construction buffers and conservation covenants. The proposed mitigation measures were accepted by DCCEEW and were conditioned on the approved permit.
- *Huntingfield slip line*
  - Timing: 2021 – current
  - Role: Primary author of the Natural Values Survey report provided to Department of State Growth
  - Relevance: Project was located immediately adjacent to the EPBC referral area for Stage 2 which contained known patches of suitable nesting and foraging habitat for the FSP (i.e. *E. viminalis*). Mickey

developed management actions for the construction of the slip lane to ensure that proposed activities did not interfere with or impact on the known habitat for the FSP

- *Pybus Hill Quarry Rehabilitation Plan*
  - Timing: 2022 - current
  - Role: Co-author of the Pybus Hill Quarry Decommissioning and Rehabilitation Plan
  - Relevance: The Pybus Hill Quarry is located on Bruny Island in Tasmania's south, known to contain a significant stronghold population for the FSP. Known records of the FSP have been located within 250m of the quarry site. *E. viminalis* is known as associated canopy tree species for all the Eucalypt vegetation communities surrounding the quarry site. GHD developed an approved plan for the rehabilitation of the quarry in accordance with the Tasmanian EPA Quarry Code of Practice. This included site preparation, establishment of vegetation which would provide suitable habitat for the FSP, fencing and plant protection measures, monitoring and reporting, completion criteria, and maintenance and weed control.

Dr Matthew Webb

- Project Role – Species expert (Forty-spotted Pardalote) review.
- Experience – 20 years
- Qualifications – Bachelor of Applied Science (Environmental Resource Management) with Honours, Doctor of Philosophy. See attached CV.

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Appendices

Appendix A

EPBC approval

Australian Government
Department of Climate Change, Energy, the Environment and Water

Notification of approval

Huntingfield Masterplan Stages 2 and 3, Huntingfield, Tasmania (EPBC 2020/8869)

This decision is made under section 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). Note that section 134(1A) of the EPBC Act applies to this approval. That provision provides, in general terms, that if the approval holder authorises another person to undertake any part of the Action, the approval holder must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other person complies with any such conditions.

Proposed Action

Person to whom the approval is granted (approval holder) **ABN of approval holder**	Director of Housing 83 625 432 188
Action	To construct stages 2 and 3 of a residential development including associated infrastructure, in Huntingfield, Tasmania [See EPBC Act referral 2020/8869].

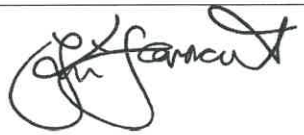
Approval Decision

Decision	My decision on whether or not to approve the taking of the Action for the purposes of the controlling provision for the Action is as follows.

Controlling Provision	**Decision**
Listed threatened species and communities (section 18 and section 18A)	Approve

Period for which the approval has effect	This approval has effect until 23 September 2042
Conditions of approval	The approval is subject to conditions under the EPBC Act as set out in **Annexure A.**

Person authorised to make decision

Name and Position	Kim Farrant Assistant Secretary Assessments (Vic, Tas) and Post Approvals Branch
Signature	
Date of decision	21 September 2022

ANNEXURE A

Note: Words appearing in **bold** have the meaning assigned to them at PART C – DEFINITIONS.

PART A – CONDITIONS SPECIFIC TO THE ACTION

1. The approval holder must not **clear** any **Forty-spotted Pardalote habitat** in the **action area**. The approval holder must not **clear** any **native vegetation** in the **action area.**

2. The approval holder must not **clear** outside the **action area**.

3. In order to restore and protect **Forty-spotted Pardalote habitat** the approval holder must submit a Revegetation and Rehabilitation Plan (RRP) to the **department** for the **Minister's** approval. The environmental outcomes of implementing the RRP must be to improve the extent and condition of habitat suitable for the Forty-Spotted Pardalote on the site. The approval holder must not **commence the action** unless the RRP has been approved by the **Minister** in writing.

4. The RRP must:

   a. be prepared in accordance with the **environmental management plan guidelines**;

   b. be developed by **suitably qualified ecologist**;

   c. Include details of specific revegetation and rehabilitation completion criteria to be achieved;

   d. Include details of the methods, management actions, and timeframes for implementation, to be carried out to meet the revegetation and rehabilitation completion criteria;

   e. include interim milestones that set targets at regular intervals for performance objectives towards achieving the environmental outcomes and revegetation and rehabilitation completion criteria;

   f. include the proposed timing for the submission of monitoring reports which provide evidence demonstrating whether the interim milestones have been achieved;

   g. include the timing for the implementation of corrective actions if monitoring activities indicate the interim milestones have not been achieved; and

   h. include details of the design and materials of a permanent fence to be constructed to impede movement of people and vehicles between the action and the **native vegetation** areas and Peter Murrell Conservation Area.

5. The approval holder must implement the approved RRP within 12 months of the **commencement of the action** or before any lots are sold, which ever comes first, until the expiry of this approval.

6. Within 6 months of the date of the approval of the RRP, the approval holder must install a permanent fence to impede movement of people and vehicles between the action and the **native vegetation** and Peter Murrell Conservation Area with the exception of directing the public to one access point to Peter Murrell Conservation Area.

7. To protect breeding of the **Forty-spotted Pardalote**, the approval holder must not undertake **construction** within the **buffer zone** between 1 August and 31 December in the same year, until the expiry of the approval.

8. The approval holder must execute an irrevocable **conservation covenant** over the **revegetation and rehabilitation areas**, within 12 months of the **commencement of action.** The approval holder must provide the **department** with written evidence of the **conservation covenant** being established with 5 **business days** of the executing of the **conservation covenant.**

9. Prior to the **commencement of the action,** the approval holder must place a **restrictive covenant relating to cat management** on the **sealed plan.**

PART B – ADMINISTRATIVE CONDITIONS

NOTIFICATION OF DATE OF COMMENCEMENT OF THE ACTION

10. The approval holder must notify the **department** in writing of the date of **commencement of the action** and the date of commencement of each stage of the action within 10 **business days** after the date of **commencement of the action** or the relevant stage of action.

11. If the **commencement of the action** does not occur within 5 years from the date of this approval, then the approval holder must not **commence the action** without the prior written agreement of the **Minister**.

Compliance records

12. The approval holder must maintain accurate and complete **compliance records**.

13. If the **department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **department** within the timeframe specified in the request.

Note: **Compliance records** may be subject to audit by the **department** or an independent auditor in accordance with section 458 of the **EPBC Act**, and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the **department**'s website or through the general media.

Submission and publication of plans

14. The approval holder must:

    a. submit **plans** electronically to the **department** for approval by the **Minister;**

    b. publish each **plan** on the **website** within 20 **business days** of the date the **plan** is approved by the **Minister** or of the date a revised action management plan is submitted to the **Minister** or the **department**, unless otherwise agreed to in writing by the **Minister**

    c. exclude or redact **sensitive ecological data** from **plans** published on the **website** or provided to a member of the public

    d. keep **plans** published on the **website** until this approval expires.

Annual compliance reporting

15. The approval holder must prepare a **compliance report** for each 12 month period following the date of **commencement of the action**, or otherwise in accordance with an annual date that has been agreed to in writing by the **Minister**. The approval holder must:

    a. publish each **compliance report** on the **website** within 60 **business days** following the relevant 12 month period

    b. notify the **department** by email that a **compliance report** has been published on the **website** and provide the weblink for the **compliance report** within 5 **business days** of the date of publication

    c. keep all **compliance reports** publicly available on the **website** until this approval expires

    d. exclude or redact **sensitive ecological data** from **compliance reports** published on the **website**

    e. where any **sensitive ecological data** has been excluded from the version published, submit the full **compliance report** to the **department** within 5 **business days** of publication.

Note: **Compliance reports** may be published on the **department**'s website.

Reporting non-compliance

16. The approval holder must notify the **department** in writing of any: **incident**; non-compliance with the conditions; or non-compliance with the commitments made in **plans**. The notification must be given as soon as practicable, and no later than 2 **business days** after becoming aware of the **incident** or non-compliance. The notification must specify:

    a. any condition which is or may be in breach

    b. a short description of the **incident** and/or non-compliance

    c. the location (including co-ordinates), date, and time of the **incident** and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.

17. The approval holder must provide to the **department** the details of any **incident** or non-compliance with the conditions or commitments made in **plans** as soon as practicable and no later than 10 **business days** after becoming aware of the **incident** or non-compliance, specifying:

    a. any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future

    b. the potential impacts of the **incident** or non-compliance

    c. the method and timing of any remedial action that will be undertaken by the approval holder.

Independent audit

18. The approval holder must ensure that **independent audits** of compliance with the conditions are conducted for the 12 month period from starting from the **commencement of the** action, and thereafter when requested by the **Minister**.

19. For each **independent audit**, the approval holder must:

a. provide the name and qualifications of the independent auditor and the draft audit criteria to the **department**

b. only commence the **independent audit** once the audit criteria have been approved in writing by the **department**

c. submit an audit report to the **department** within the timeframe specified in the approved audit criteria.

20. The approval holder must publish the audit report on the **website** within 10 **business days** of receiving the **department's** approval of the audit report and keep the audit report published on the **website** until this approval expires.

Completion of the action

21. Within 30 **business days** after the **completion of the action**, the approval holder must notify the **department** in writing of the date of the **completion of the action** and submit all **completion data** to the department.

PART C - DEFINITIONS

In these conditions, except where contrary intention is expressed, the following definitions are used:

Action area means the location of the action, represented in Figure 1 of Appendix A by the polygon enclosed by the thick red line labelled as "Huntingfield Site", with the exception of the polygon shown with green hatching labelled "Stage 1" and the polygon shown with grey hatching labelled "Roundabout".

Buffer zone means the areas within 100 metres of **Forty-spotted Pardalote habitat** represented in Figure 3 of Appendix A by the polygon enclosed by the thin red line labelled as "100 Meter Buffer from *P.quadragintus* habitat".

Business day means a day that is not a Saturday, a Sunday or a public holiday in the state or territory of the action.

Clear/ clearing/ clearance means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of vegetation (but not including weeds – see the *Australian weeds strategy 2017 to 2027* for further guidance).

Commencement of the action means the first instance of any specified activity associated with the action including **clearing** and **construction**. **Commencement of the action** does not include minor physical disturbance necessary to:

a. undertake pre-clearance surveys or monitoring programs

b. install signage and /or temporary fencing to prevent unapproved use of the project area

c. protect environmental and property assets from fire, weeds and pests, including installation of temporary fencing, and use of existing surface access tracks

d. install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on the **protected matters**

Completion data means an environmental report and spatial data clearly detailing how the conditions of this approval have been met. The **department**'s preferred spatial data format is **shapefile**.

Completion of the action means the date on which all specified activities associated with the action have permanently ceased.

Compliance records means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession or that are within the approval holder's power to obtain lawfully.

Compliance reports means written reports:

i. providing accurate and complete details of compliance, **incidents**, and non-compliance with the conditions and the **plans**

ii. consistent with the **department's** *Annual Compliance Report Guidelines* (2014)

iii. include a **shapefile** of any clearance of any **protected matters**, or their habitat, undertaken within the relevant 12 month period

iv. annexing a schedule of all **plans** prepared and in existence in relation to the conditions during the relevant 12 month period

Conservation covenant means a promise contained in a deed to land or real estate for the long-term protection of the property for the conservation of the relevant **protected matters** which is binding upon the current owner and all future owners. The conservation covenant must be registered in accordance with the *Nature Conservation Act 2002* (Tas) and placed on the subdivision certificate of title **sealed plan.**

Construction means the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; but excluding geotechnical investigation and the installation of temporary fences and signage.

Department means the Australian Government agency responsible for administering the **EPBC Act**.

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

Forty-spotted Pardalote means the **EPBC Act** listed threatened species *Pardalotus quadragintus.*

Forty-spotted Pardalote habitat means habitat suitable for the **Forty-spotted Pardalote** as shown in Figure 3 (Appendix A) by the pink areas labelled as "Forty-spotted pardalote (*P.quadragintus*) foraging and potential breeding habitat (e/EN)".

Incident means any event which has the potential to, or does, impact on one or more **protected matter(s)**.

Independent audit means an audit conducted by an independent and **suitably qualified person** as detailed in the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines* (2019).

Minister means the Australian Government Minister administering the **EPBC Act** including any delegate thereof.

Native vegetation means the green area with vertical lines labelled as "(DAS) – *Eucalyptus amygdalina* forest and woodland on sandstone and the green dotted area labelled as "(DOV) – *Eucalyptus ovata* dry forest and woodland" as shown in Figure 2 (Appendix A).

Plan(s) means any of the documents required to be prepared, approved by the **Minister**, implemented by the approval holder and published on the **website** in accordance with these conditions (includes action management plans and/or strategies).
Protected matter means a matter protected under a controlling provision in Part 3 of the **EPBC Act** for which this approval has effect.

Restrictive covenant relating to cat management means a mechanism to restrict cat ownership at the **action area** either through a Part V agreement under the *Land Use Planning and Approvals Act 1993* that is placed on each new title in the development or a restrictive covenant under the *Land Title Act 1980* (Tas) on the subdivision titles. Both mechanisms must require:

i. The owner of the lot must not introduce or keep domestic cats, unless otherwise approved by the general manager in writing. The general manager will only approve the introduction and keeping of cats where there is sufficient justification, and the owner or occupier agrees to and can demonstrate that any cat will be contained within the lot boundary at all times

ii. Cats must not be in public places.

Revegetation and rehabilitation area/s means the areas represented in Figure 2 of Appendix A by the polygons enclosed by the yellow lines labelled as "Revegetation" and the polygons enclosed by the pink lines labelled as "Rehabilitation".

Sealed plan means as defined in the *Local Government (Building and Miscellaneous Provisions) Act 1993* (Tas).

Sensitive ecological data means data as defined in the Australian Government Department of the Environment (2016) *Sensitive Ecological Data – Access and Management Policy V1.0.*

Shapefile means location and attribute information of the action provided in an Esri shapefile format. Shapefiles must contain '.shp', '.shx', '.dbf' files and a '.prj' file that specifies the projection/geographic coordinate system used. Shapefiles must also include an '.xml' metadata file that describes the shapefile for discovery and identification purposes.

Suitably qualified ecologist means a person who has professional qualifications and at least three (3) years of work experience designing and implementing management plans for habitat for **Forty-spotted Pardalote**, and can give an authoritative assessment and advice on the management requirements of habitat for **Forty-spotted Pardalote** using relevant protocols, standards, methods and/or literature.

Suitably qualified person means a person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.

Website means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

VARIATION OF CONDITIONS ATTACHED TO APPROVAL
Huntingfield Masterplan Stages 2 and 3, Huntingfield, Tasmania (EPBC 2020/8869)

This decision to vary conditions of approval is made under section 143(1)(a) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Approved action

Approval holder	Homes Tasmania (formerly Director of Housing) ABN: 83 625 432 188
Approved action	To construct stages 2 and 3 of a residential development including associated infrastructure, in Huntingfield, Tasmania [See EPBC Act referral 2020/9969].

Variation

Variation of conditions attached to approval	The variation is: Delete conditions 3, 4, 5, 6, 7, 8, 9, 10, 15 and 18 attached to the approval and substitute with the conditions specified in the table below. Delete the definition of **Action area** attached to the approval and substitute with the definition in the table below. Delete the definition of **Compliance reports** attached to the approval and substitute with the definition of **Compliance reports** specified in the table below. Delete the definition of **Conservation covenant** attached to the approval and substitute with the definition of **Conservation covenant** specified in the table below. Delete the definition of **Restrictive covenant relating to cat management** attached to the approval and substitute with the definition of **Restrictive covenant relating to cat management** specified in the table below. Delete the definition of **Native vegetation** attached to the approval and substitute with the definition of **Native vegetation** specified in the table below. Add the definition of **Commencement of stage 2** specified in the table below. Add the definition of **Commencement of Stage 3** specified in the table below.

	Add the definition of **Continue the action** or **Continuing the action** specified in the table below. Add the definition of **Environmental management plan guidelines** specified in the table below. Add the definition of **General Manager** specified in the table below. Delete the attachments at Appendix A and substitute with the attachments specified in the table below.
Date of effect	This variation has effect on the date this instrument is signed.
Period for which the approval has effect	This approval has effect until 23 September 2042.

Person authorised to make decision

Name and position	Graeme Grosse Branch Head Compliance and Enforcement Branch
Signature	
Date of decision	13 December 2024

Date of decision	Conditions attached to approval
Part A – Conditions specific to the action	
Original dated 21/09/2022	1. The approval holder must not **clear** any **Forty-spotted Pardalote habitat** in the **action area.** The approval holder must not **clear** any **native vegetation** in the **action area**.
Original dated 21/09/2022	2. The approval holder must not **clear** outside the **action area**.
As varied on the date this instrument was signed	3. To restore and protect **Forty-spotted Pardalote habitat**, the approval holder must submit a Revegetation and Rehabilitation Plan (RRP) to the **department** for the **Minister's** approval. The environmental outcomes of implementing the RRP must be to improve the extent and condition of habitat suitable for the **Forty-Spotted Pardalote** on the site. From the date of this variation, the approval holder must not **continue the action** until the RRP has been approved by the **Minister** in writing.
As varied on the date this instrument was signed	4. The RRP must: a. be prepared in accordance with the **environmental management plan guidelines**; b. be developed by **suitably qualified ecologist**; c. include details of specific revegetation and rehabilitation completion criteria to be achieved; d. include details of the methods, management actions, and timeframes for implementation, to be carried out to meet the revegetation and rehabilitation completion criteria; e. include interim milestones that set targets at regular intervals for performance objectives towards achieving the environmental outcomes and revegetation and rehabilitation completion criteria; f. include the proposed timing for the submission of monitoring reports which provide evidence demonstrating whether the interim milestones have been achieved; g. include the timing for the implementation of corrective actions if monitoring activities indicate the interim milestones have not been achieved; and h. include details of the design and materials of a permanent fence to be constructed to impede movement of people and vehicles between the Action area and the **native vegetation** areas and Peter Murrell Conservation Area with the exception of directing the public to one access point to Peter Murrell Conservation Area.

As varied on the date this instrument was signed	5. The approval holder must commence implementing the approved RRP within 6 months of the earlier of: a. **continuing the action** or, b. the sale of any lots comprising part of the **action area**. The approval holder must continue to implement the RRP at least until the expiry of this approval.
As varied on the date this instrument was signed	6. Within 6 months of the date of the approval of the RRP, the approval holder must complete installing the permanent fence in accordance with details specified in the approved RRP.
As varied on the date this instrument was signed	7. To protect breeding of the **Forty-spotted Pardalote**, the approval holder must not undertake **construction** within the **buffer zone** between 1 August and 31 December of any given year, until the expiry of the approval.
As varied on the date this instrument was signed	8. The approval holder must execute a **conservation covenant** over the **revegetation and rehabilitation areas** within 12 months of **continuing the action**. The **conservation covenant** must be placed on the subdivision certificate of the **sealed plan** The approval holder must: a. provide the **department** with written evidence of the **conservation covenant** being established with 5 **business days** of the executing of the **conservation covenant;** and, b. ensure that the **conservation covenant** over the **revegetation and rehabilitation areas** remains in place at least until the expiry date of this approval.
As varied on the date this instrument was signed	9. Prior to transferring or selling any residential land comprising part of the **action area**, the approval holder must place a **restrictive covenant relating to cat management** on each title and on the **sealed plan**. Each **restrictive covenant relating to cat management** must require that: a. the owner of the lot must not introduce or keep any cat, unless the **general manager** has accepted in writing an application by the lot owner for the keeping of one or two cats which demonstrates that the owner has the physical means and commitment to ensure that any cat will be humanely contained within that owner's lot boundary at all times under penalty of a severe fine or the permanent removal of the cat if it is found to exit the lot boundary; b. if the owner rents the property, the owner will ensure that any prospective tenant is made aware as part of any advertising of the property and in any lease document of the existence and requirements of the **restrictive covenant relating to cat management** the covenant; c. if the owner attempts to sell the property, the owner will ensure that any prospective buyer is made aware as part of any advertising of the property

	and in any contract of sale documentation, of the existence and details of the **restrictive covenant relating to cat management** the covenant; and d. no cat will be allowed on public land that comprises part of the **action area**. The approval holder must: a. not transfer or sell any residential land comprising part of the **action area** unless a **restrictive covenant relating to cat management** has been placed on the **sealed plan**; b. notify the **department** in writing, within 20 **business days** of a **restrictive covenant relating to cat management** being placed on the **sealed plan**; of: i. the date the **restrictive covenant relating to cat management** was placed on the **sealed plan**, and ii. the details of the **restrictive covenant relating to cat management** placed on the **sealed plan**; and c. ensure, once in place, the **restrictive covenant relating to cat management** remains in place on the **sealed plan** at least until the expiry date of this approval.
Part B – Administrative conditions	
As varied on the date this instrument was signed	**Notification of date of commencement of the action** 10. The approval holder must notify the **department** in writing of the date of: a. **continuing the action** within 10 **business days** after **continuing the action**; b. the **commencement of stage 2** within 10 **business days** after the **commencement of stage 2**; and c. the **commencement of stage 3** within 10 **business days** after the **commencement of stage 3**.
Original dated 21/09/2022	11. If the **commencement of the action** does not occur within 5 years from the date of this approval, then the approval holder must not **commence the action** without the prior written agreement of the **Minister**.
Original dated 21/09/2022	**Compliance records** 12. The approval holder must maintain accurate and complete **compliance records**
Original dated 21/09/2022	13. If the **department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **department** within the timeframe specified in the request. **Note: Compliance records** may be subject to audit by the **department** or an independent auditor in accordance with section 458 of the **EPBC Act**, and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the **department**'s website or through the general media.

Original dated 21/09/2022	**Submission and publication of plans** 14. The approval holder must: a. submit **plans** electronically to the **department** for approval by the **Minister**; b. publish each **plan** on the **website** within 20 **business days** of the date the **plan** is approved by the **Minister** or of the date a revised action management plan is submitted to the **Minister** or the **department**, unless otherwise agreed to in writing by the **Minister;** c. exclude or redact **sensitive ecological data** from **plans** published on the **website** or provided to a member of the public; and d. keep **plans** published on the **website** until this approval expires.
As varied on the date this instrument was signed	**Annual compliance reporting** 15. The approval holder must prepare a **compliance report** for each 12-month period with the first period ending on 21 August 2025, or otherwise in accordance with an annual date that has been agreed to in writing by the **Minister**. The approval holder must: a. publish each **compliance report** on the **website** within 60 **business days** following the relevant 12-month period; b. notify the **department** by email that a **compliance report** has been published on the **website** and provide the weblink for the **compliance report** within 5 **business days** of the date of publication; c. keep all **compliance reports** publicly available on the **website** until this approval expires; d. exclude or redact **sensitive ecological data** from **compliance reports** published on the **website**; and e. where any **sensitive ecological data** has been excluded from the version published, submit the full **compliance report** to the **department** within 5 **business days** of publication. Note: **Compliance reports** may be published on the **department**'s website.
Original dated 21/09/2022	**Reporting non-compliance** 16. The approval holder must notify the **department** in writing of any: **incident**; non-compliance with the conditions; or non-compliance with the commitments made in **plans**. The notification must be given as soon as practicable, and no later than 2 **business days** after becoming aware of the **incident** or non-compliance. The notification must specify: a. any condition which is or may be in breach; b. a short description of the **incident** and/or non-compliance; and c. the location (including co-ordinates), date, and time of the **incident** and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.
Original dated 21/09/2022	17. The approval holder must provide to the **department** the details of any **incident** or non-compliance with the conditions or commitments made in **plans** as soon as practicable and no later than 10 **business days** after becoming aware of the **incident** or non-compliance, specifying:

	a. any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future; b. the potential impacts of the **incident** or non-compliance; and c. the method and timing of any remedial action that will be undertaken by the approval holder.
As varied on the date this instrument was signed	**Independent audit** 18. The approval holder must ensure that **independent audits** of compliance with the conditions are conducted for the 12-month period from the date of **continuing the action,** and thereafter when requested by the **Minister**.
Original dated 21/09/2022	19. For each **independent audit**, the approval holder must: a. provide the name and qualifications of the independent auditor and the draft audit criteria to the **department;** b. only commence the **independent audit** once the audit criteria have been approved in writing by the **department**; and c. submit an audit report to the **department** within the timeframe specified in the approved audit criteria.
Original dated 21/09/2022	20. For each **independent audit**, the approval holder must: a. provide the name and qualifications of the independent auditor and the draft audit criteria to the **department;** b. only commence the **independent audit** once the audit criteria have been approved in writing by the **department**; and c. submit an audit report to the **department** within the timeframe specified in the approved audit criteria.
Original dated 21/09/2022	21. The approval holder must publish the audit report on the **website** within 10 **business days** of receiving the **department's** approval of the audit report and keep the audit report published on the **website** until this approval expires.
Original dated 21/09/2022	**Completion of the action** 22. Within 30 **business days** after the **completion of the action**, the approval holder must notify the **department** in writing of the date of the **completion of the action** and submit all **completion data** to the **department**.

Date of decision	**Definitions attached to approval**
As varied on the date this instrument was signed	**Action area** means the location of the action, represented in Appendix A by the zone enclosed within the red lines labelled 'Huntingfield Site', excluding the areas represented by the zones shaded with: - green hatching labelled 'Stage 1', and - grey hatching labelled 'Roundabout'.

Original dated 21/09/2022	**Buffer zone** means the areas within 100 metres of **Forty-spotted Pardalote habitat** represented in Figure 3 of Appendix A by the polygon enclosed by the thin red line labelled as "100 Meter Buffer from *P.quadragintus* habitat".
Original dated 21/09/2022	**Business day** means a day that is not a Saturday, a Sunday or a public holiday in the state or territory of the action.
Original dated 21/09/2022	**Clear/ clearing/ clearance** means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of vegetation (but not including weeds – see the Australian weeds strategy 2017 to 2027 for further guidance).
As varied on the date this instrument was signed	**Commencement of stage 2** means the first instance of any specified activity associated with the action, including **clearing** and **construction**, within the area represented in Appendix A by the zone shaded with orange hatched lines labelled 'Stage 2'.
As varied on the date this instrument was signed	**Commencement of stage 3** means the first instance of any specified activity associated with the action, including **clearing** and **construction**, within the area represented in Appendix A by the zones shaded with blue hatched lines labelled 'Stage 3'.
Original dated 21/09/2022	**Commencement of the action** means the first instance of any specified activity associated with the action including **clearing** and **construction**. **Commencement of the action** does not include minor physical disturbance necessary to: a. undertake pre-clearance surveys or monitoring programs; b. install signage and /or temporary fencing to prevent unapproved use of the project area; c. protect environmental and property assets from fire, weeds and pests, including installation of temporary fencing, and use of existing surface access tracks; or d. install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on the **protected matters.**
Original dated 21/09/2022	**Completion data** means an environmental report and spatial data clearly detailing how the conditions of this approval have been met. The **department**'s preferred spatial data format is **shapefile**.
Original dated 21/09/2022	**Compliance records** means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession or that are within the approval holder's power to obtain lawfully.
As varied on the date this instrument was signed	**Compliance reports** means written reports: i. providing accurate and complete details of compliance, **incidents**, and non-compliance with the conditions and the **plans;**

	ii. consistent with the **department's** *Annual Compliance Report Guidelines* (2023); and iii. include a **shapefile** of any clearance of any **protected matters**, or their habitat, undertaken within the relevant 12-month period. iv. annexing a schedule of all **plans** prepared and in existence in relation to the conditions during the relevant 12-month period.
As varied on the date this instrument was signed	**Conservation covenant** means a conservation covenant under sections 34 and 39 of the *Nature Conservation Act 2002* (Tas) to provide protection for the site against development incompatible with conservation.
Original dated 21/09/2022	**Construction** means the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; but excluding geotechnical investigation and the installation of temporary fences and signage.
As varied on the date this instrument was signed	**Continue the action** or **continuing of the action** means the first instance of any specified activity associated with the action, including **clearing** and **construction**, after the date of this variation decision. **Continuing the action** does not include minor physical disturbance necessary to: a. undertake pre-clearance surveys or monitoring programs; b. install signage and /or temporary fencing to prevent unapproved use of the project area; c. protect environmental and property assets from fire, weeds and pests, including installation of temporary fencing, and use of existing surface access tracks; or d. install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on the **protected matters**.
Original dated 21/09/2022	**Department** means the Australian Government agency responsible for administering the **EPBC Act**.
Original dated 21/09/2022	**EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).
As varied on the date this instrument was signed	**Environmental management plan guidelines** means the *Environmental Management Plan Guidelines*, Commonwealth of Australia 2024.

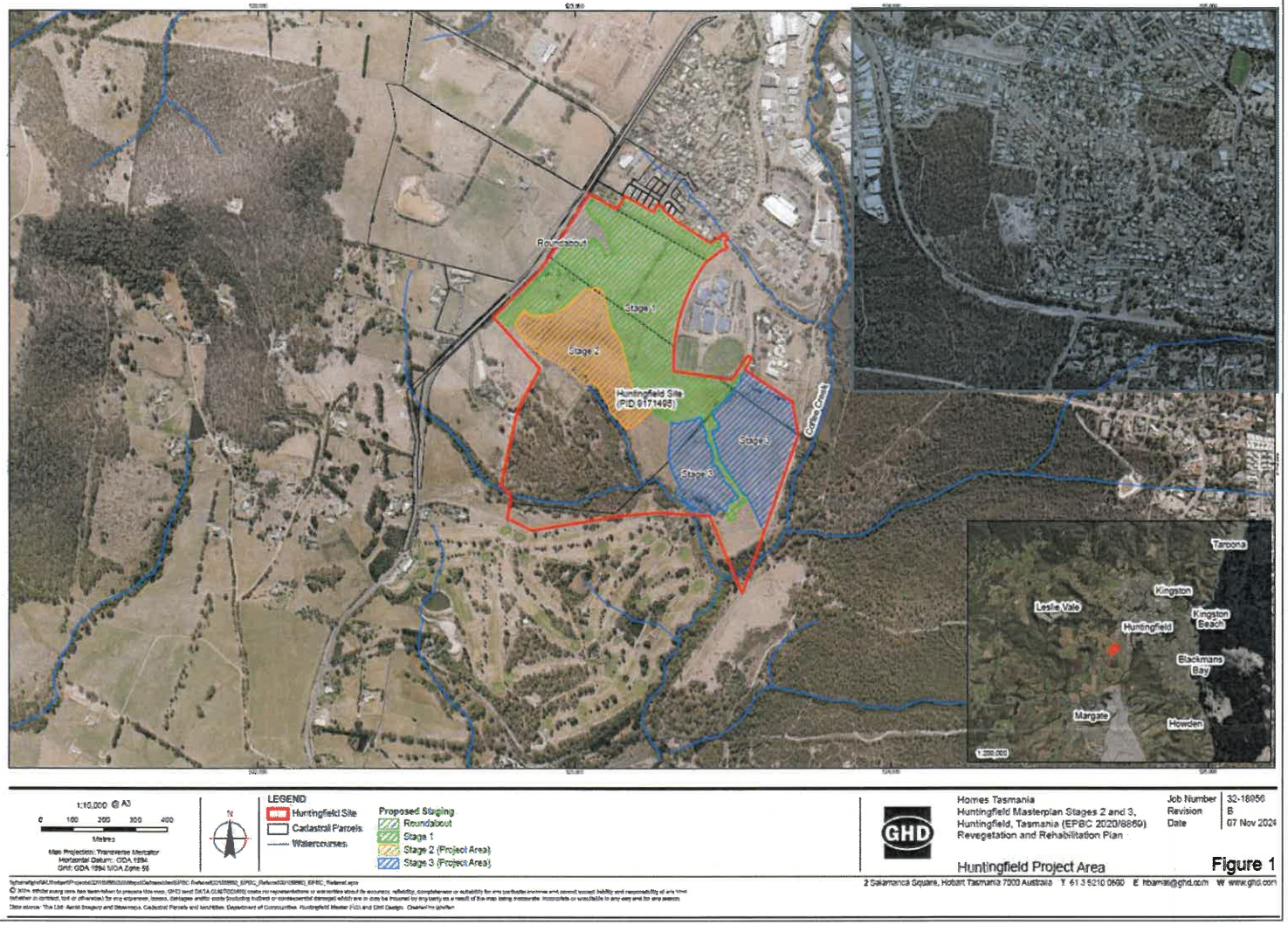
Original dated 21/09/2022	**Forty-spotted Pardalote** means the **EPBC Act** listed threatened species *Pardalotus quadragintus.*
As varied on the date this instrument was signed	**General Manager** means a person appointed under section 61 of the *Local Government Act 1993* (Tas) as the General Manager of the municipal council for the local government area for which the **action area** lies within, including any acting General Manager.
Original dated 21/09/2022	**Incident** means any event which has the potential to, or does, impact on one or more **protected matter**(s).
Original dated 21/09/2022	**Independent audit** means an audit conducted by an independent and **suitably qualified person** as detailed in the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines* (2019).
Original dated 21/09/2022	**Minister** means the Australian Government Minister administering the **EPBC Act** including any delegate thereof.
As varied on the date this instrument was signed	**Native vegetation** means the area of native vegetation represented in Figure 2 Appendix A, by the green shaded zone hatched with vertical black lines labelled as "(DAS) - *Eucalyptus amygdalina* forest and woodland on sandstone" and the green shaded zone stippled with black dots labelled as "(DOV) – *Eucalyptus ovata* dry forest and woodland".
Original dated 21/09/2022	**Plan(s)** means any of the documents required to be prepared, approved by the **Minister**, implemented by the approval holder and published on the **website** in accordance with these conditions (includes action management plans and/or strategies). **Protected matter** means a matter protected under a controlling provision in Part 3 of the **EPBC Act** for which this approval has effect.
As varied on the date this instrument was signed	**Restrictive covenant relating to cat management** means a mechanism to restrict cat ownership applying to a part of the **action area** either through placing a Part V agreement made under the *Land Use Planning and Approvals Act 1993* (Tas) on each new title for a lot comprising part of the **Action area** and the **sealed plan** or by placing a restrictive covenant under the *Land Titles Act 1980* (Tas) on each subdivision title and the **sealed plan**.
Original dated 21/09/2022	**Revegetation and rehabilitation area/s** means the areas represented in Figure 2 of Appendix A by the polygons enclosed by the yellow lines labelled as "Revegetation" and the polygons enclosed by the pink lines labelled as "Rehabilitation".
Original dated 21/09/2022	**Sealed plan** means as defined in the *Local Government (Building and Miscellaneous Provisions) Act 1993* (Tas).
Original dated 21/09/2022	**Sensitive ecological data** means data as defined in the Australian Government Department of the Environment (2016) *Sensitive Ecological Data – Access and Management Policy V1.0.*

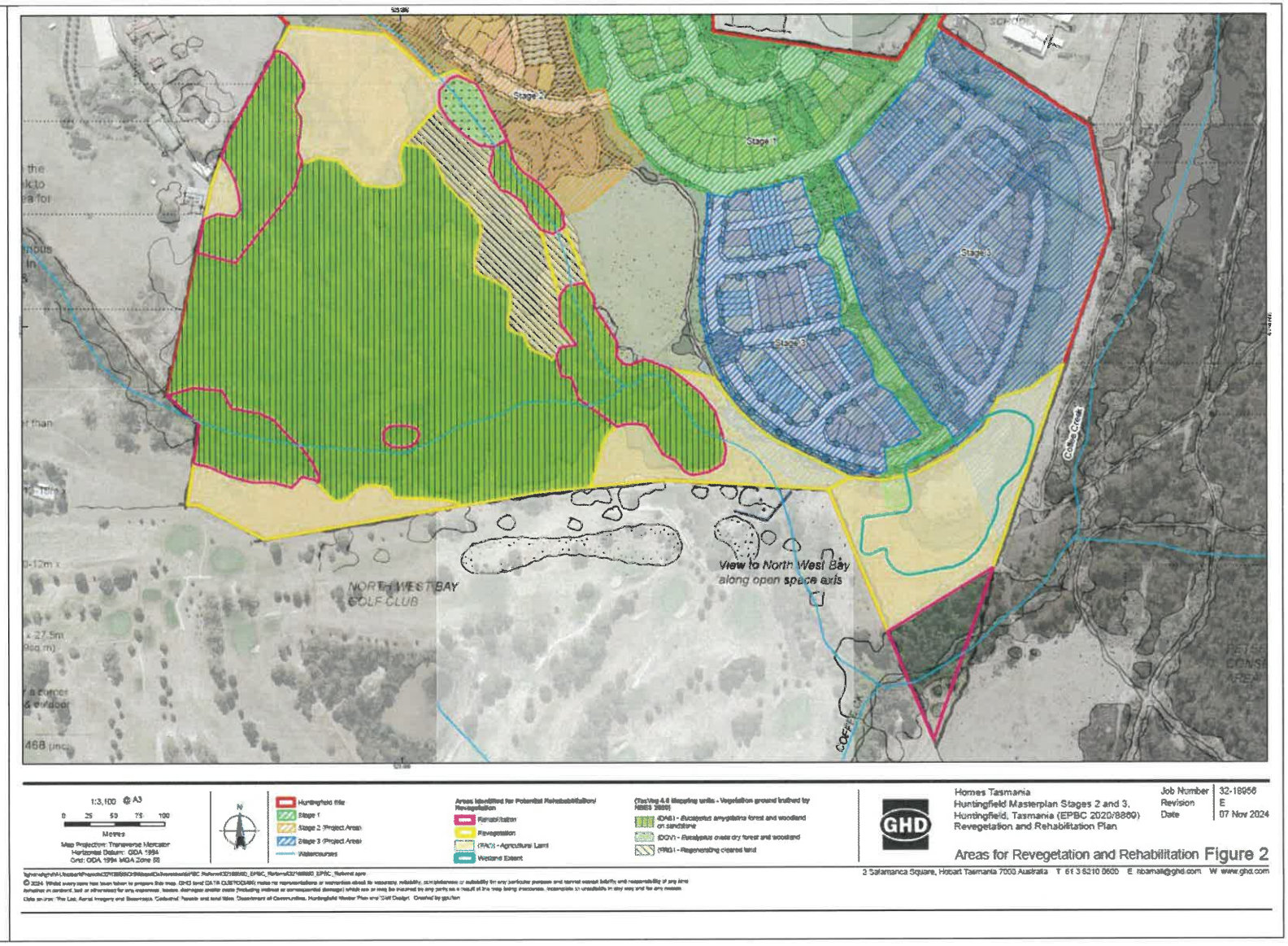
Original dated 21/09/2022	**Shapefile** means location and attribute information of the action provided in an Esri shapefile format. Shapefiles must contain '.shp', '.shx', '.dbf' files and a '.prj' file that specifies the projection/geographic coordinate system used. Shapefiles must also include an '.xml' metadata file that describes the shapefile for discovery and identification purposes.
Original dated 21/09/2022	**Suitably qualified ecologist** means a person who has professional qualifications and at least three (3) years of work experience designing and implementing management plans for habitat for **Forty-spotted Pardalote**, and can give an authoritative assessment and advice on the management requirements of habitat for **Forty-spotted Pardalote** using relevant protocols, standards, methods and/or literature.
Original dated 21/09/2022	**Suitably qualified person** means a person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.
Original dated 21/09/2022	**Website** means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

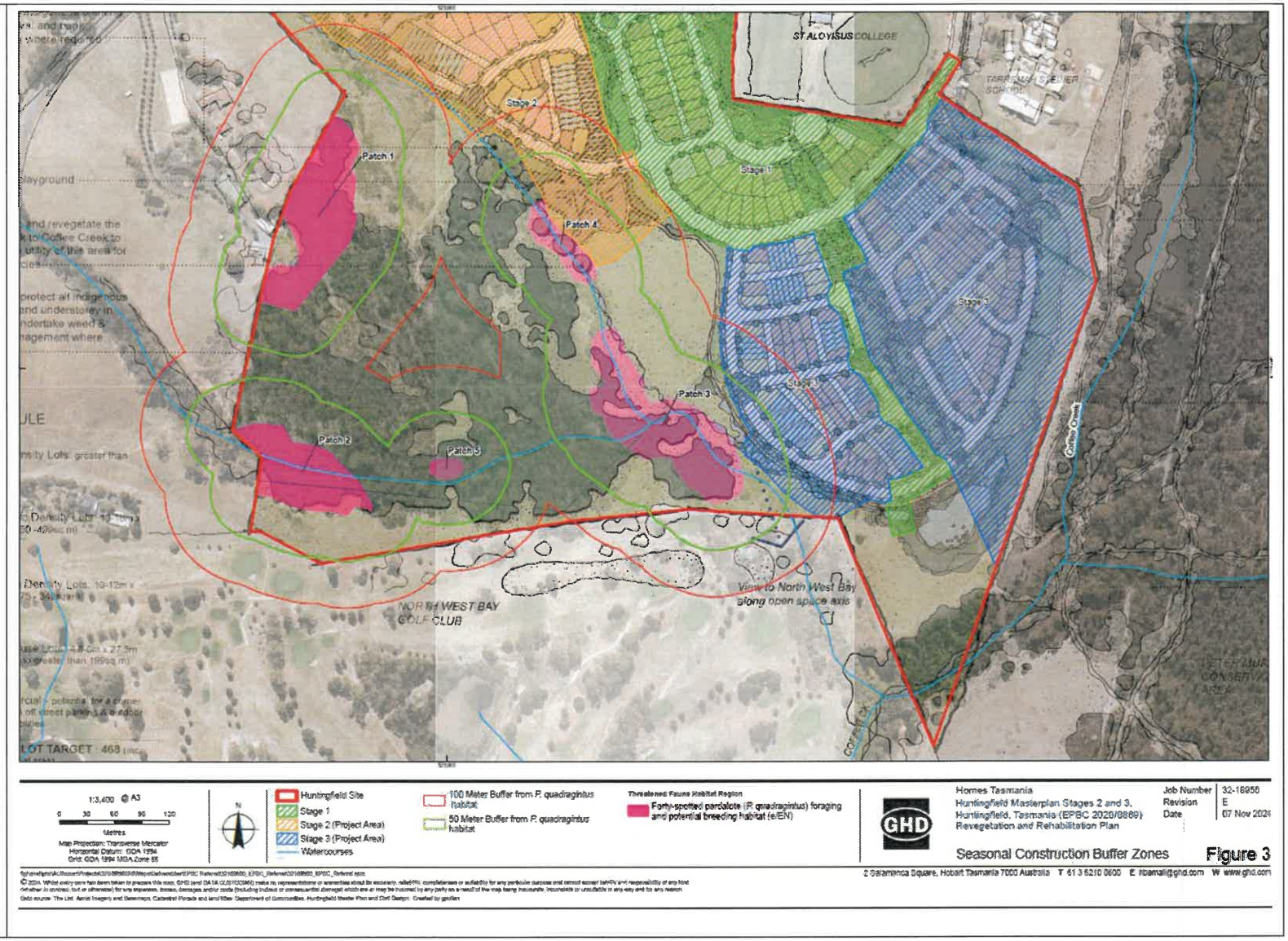
Appendix B

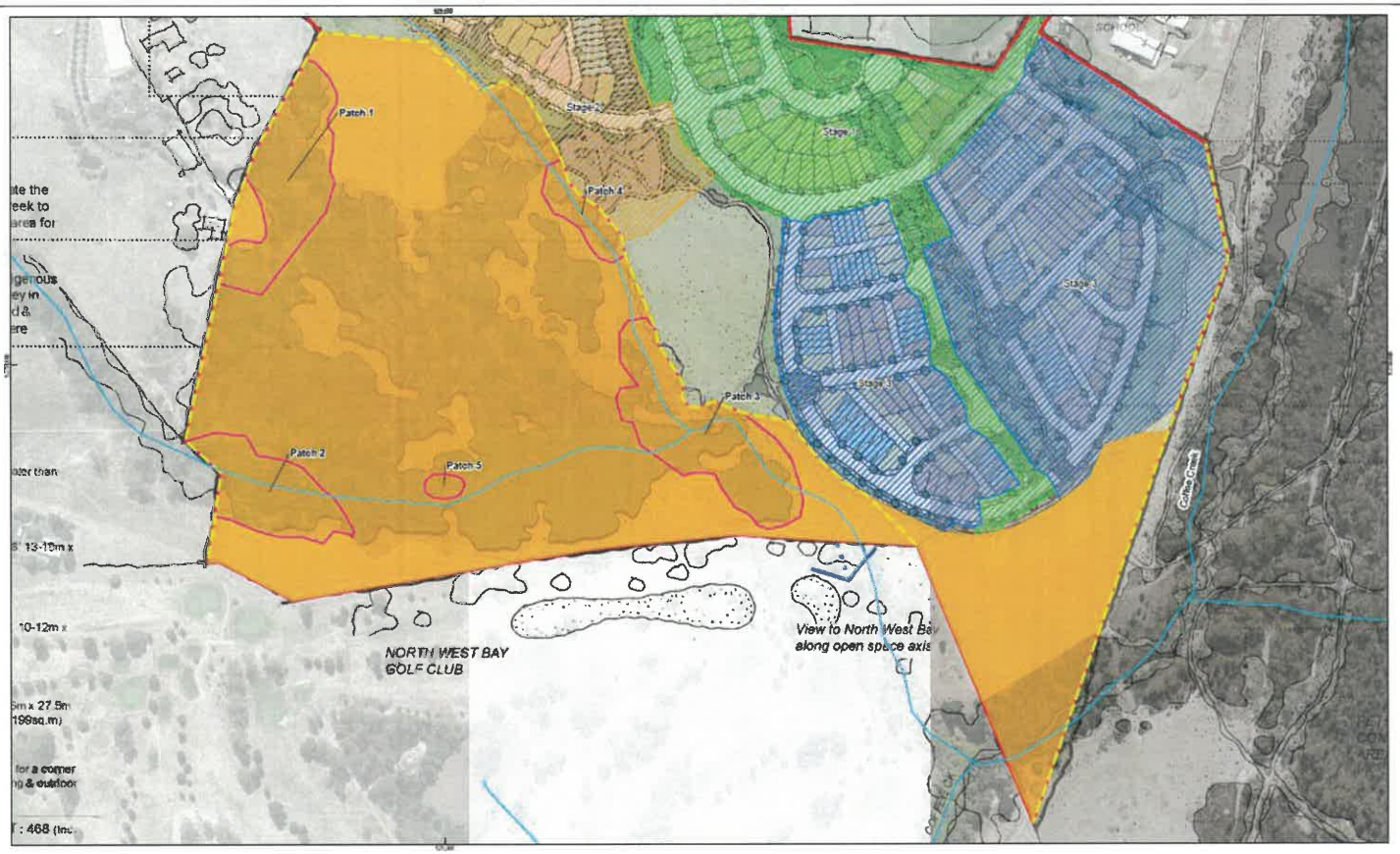
Site maps and figures

Date of decision	Attachments
As varied on the date this instrument was signed	1. Appendix A




Stage 2
Stage 1
Stage 3
Stage 3
View to North West Bay
along open space axis
NORTH WEST BAY
GOLF CLUB
1:3,100 @ A3
Meters
Huntingfield title
Stage 1
Stage 2 (Project Area)
Stage 3 (Project Area)
Watercourses
Areas identified for Potential Rehabilitation/ Revegetation
Rehabilitation
Revegetation
(PAG) - Agriculture Land
Wetland Extent
Homes Tasmania
Huntingfield Masterplan Stages 2 and 3,
Huntingfield, Tasmania (EPBC 2020/8860)
Revegetation and Rehabilitation Plan
Job Number 32-18956
Revision E
Date 07 Nov 2024
Areas for Revegetation and Rehabilitation Figure 2
2 Salamanca Square, Hobart Tasmania 7000 Australia T 61 3 6210 9600 E hbamail@ghd.com W www.ghd.com


ST ALOYSIUS COLLEGE
Stage 2
Stage 1
Stage 4
Stage 3
Stage 5
Patch 1
Patch 2
Patch 3
Patch 4
Patch 5
NORTH WEST BAY GOLF CLUB
View to North West Bay along open space axis
LOT TARGET : 468
1:3,400 @ A3
0 30 60 90 120
Metres
Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55
Huntingfield Site
Stage 1
Stage 2 (Project Area)
Stage 3 (Project Area)
Watercourses
100 Meter Buffer from P. quadragintus habitat
50 Meter Buffer from P. quadragintus habitat
Threatened Fauna Habitat Region
Forty-spotted pardalote (P. quadragintus) foraging and potential breeding habitat (e/EN)
GHD
Hornes Tasmania
Huntingfield Masterplan Stages 2 and 3,
Huntingfield, Tasmania (EPBC 2020/8869)
Revegetation and Rehabilitation Plan
Job Number 32-18956
Revision E
Date 07 Nov 2024
Seasonal Construction Buffer Zones
Figure 3
2 Salamanca Square, Hobart Tasmania 7000 Australia T 61 3 6210 0600 E hbamail@ghd.com W www.ghd.com


Patch 1
Patch 2
Patch 3
Patch 4
Patch 5
Stage 1
Stage 2
Stage 3
NORTH WEST BAY
GOLF CLUB
View to North West Ba
along open space axis
Homes Tasmania
Huntingfield Masterplan Stages 2 and 3,
Huntingfield, Tasmania (EPBC 2020/8669)
Revegetation and Rehabilitation Plan
Job Number 32-18656
Revision E
Date 07 Nov 2024
Maximum Covenant Area
Figure 4
GHD
2 Salamanca Square, Hobart Tasmania 7000 Australia T 61 3 6210 0600 E hbamail@ghd.com W www.ghd.com

1:10,000 @ A3

0 100 200 300 400

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

- Huntingfield Site
- Cadastral Parcels
- Watercourses

Proposed Staging

- Roundabout
- Stage 1
- Stage 2 (Project Area)
- Stage 3 (Project Area)

GHD

Homes Tasmania
Huntingfield Masterplan Stages 2 and 3,
Huntingfield, Tasmania (EPBC 2020/8869)
Revegetation and Rehabilitation Plan

Job Number 32-18956
Revision B
Date 07 Nov 2024

Huntingfield Project Area

Figure 1

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Data source: The List, Aerial Imagery and Basemaps, Cadastral Parcels and land titles; Department of Communities, Huntingfeild Master Plan and Civil Design. Created by:gputlan

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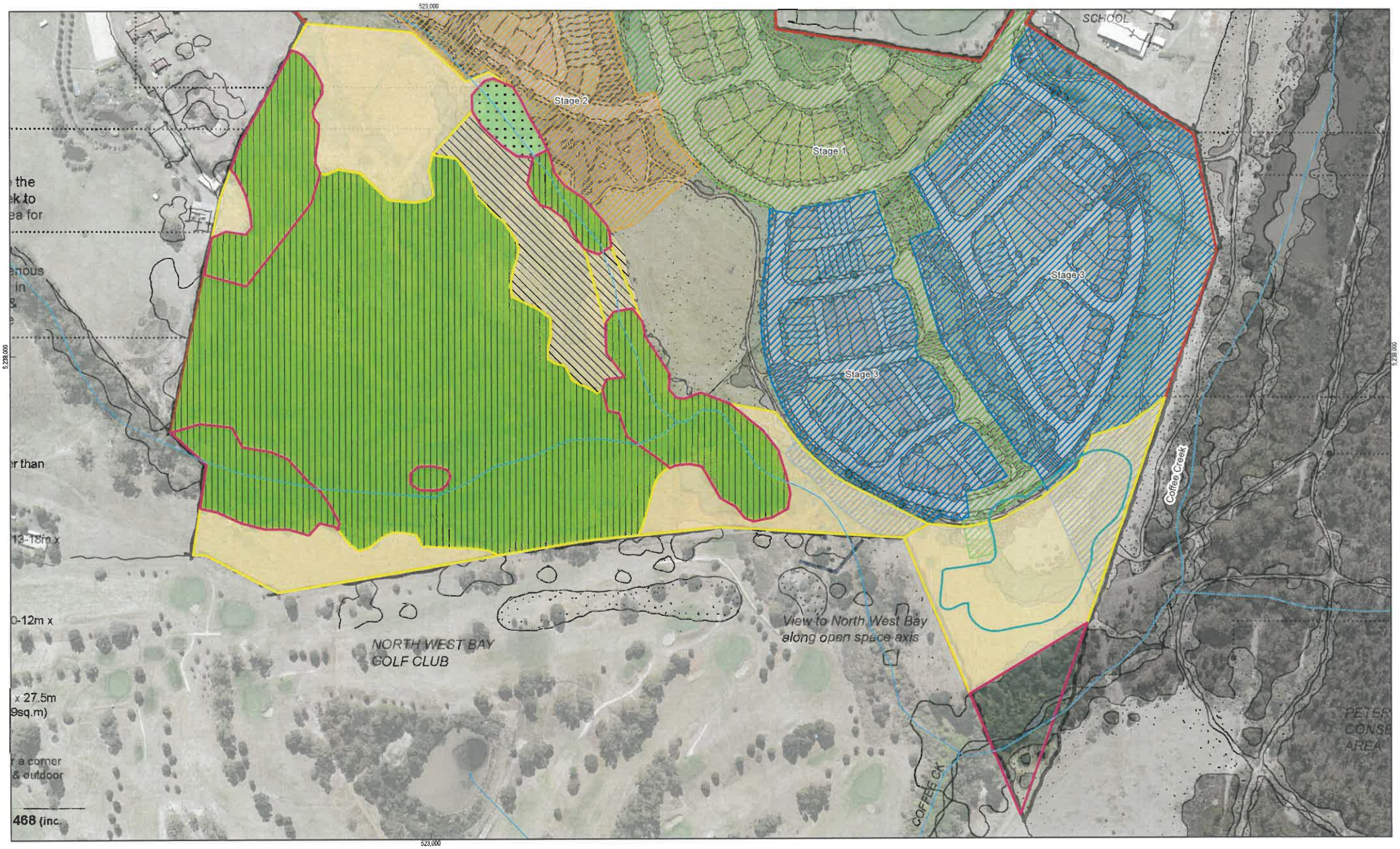

1:3,100 @ A3

0 25 50 75 100

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

- Huntingfield Site
- Stage 1
- Stage 2 (Project Area)
- Stage 3 (Project Area)
- Watercourses

Areas Identified for Potential Rehabilitation/ Revegetation

- Rehabilitation
- Revegetation
- (FAG) - Agricultural Land
- Wetland Extent

(TasVeg 4.0 Mapping units - Vegetation ground truthed by NBES 2020)

- (DAS) - *Eucalyptus amygdalina* forest and woodland on sandstone
- (DOV) - *Eucalyptus ovata* dry forest and woodland
- (FRG) - Regenerating cleared land

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Homes Tasmania
Huntingfield Masterplan Stages 2 and 3,
Huntingfield, Tasmania (EPBC 2020/8869)
Revegetation and Rehabilitation Plan

Job Number	32-18956
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Areas for Revegetation and Rehabilitation Figure 2

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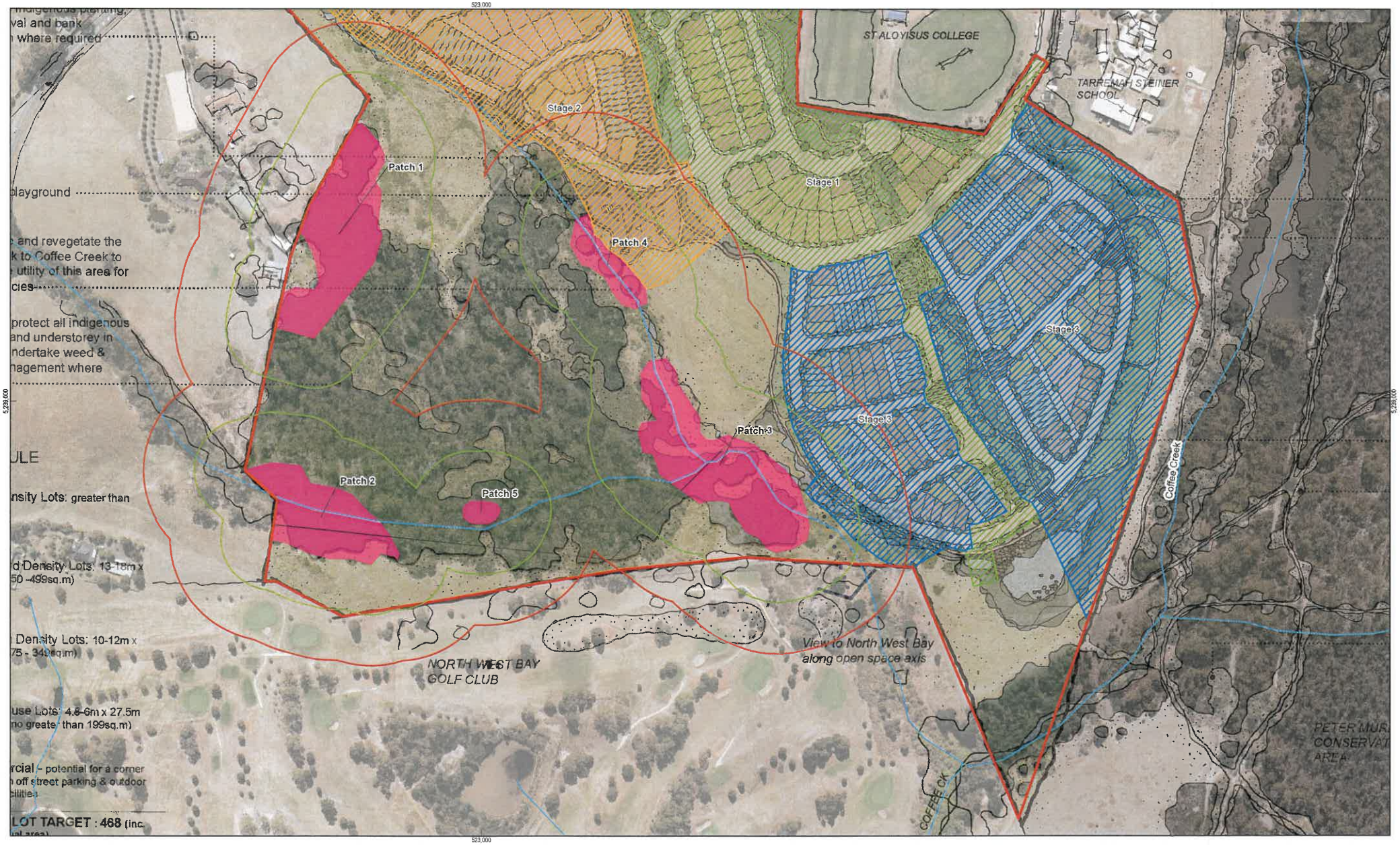
Data source: The List, Aerial Imagery and Basemaps, Cadastral Parcels and land titles; Department of Communities, Huntingfeild Master Plan and Civil Design. Created by:gpullan



1:3,400 @ A3

0 30 60 90 120

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

- Huntingfield Site
- Stage 1
- Stage 2 (Project Area)
- Stage 3 (Project Area)
- Watercourses
- 100 Meter Buffer from *P. quadragintus* habitat
- 50 Meter Buffer from *P. quadragintus* habitat

Threatened Fauna Habitat Region

- Forty-spotted pardalote (*P. quadragintus*) foraging and potential breeding habitat (e/EN)

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Homes Tasmania
Huntingfield Masterplan Stages 2 and 3,
Huntingfield, Tasmania (EPBC 2020/8869)
Revegetation and Rehabilitation Plan

Job Number	32-18956
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Seasonal Construction Buffer Zones

Figure 3

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Data source: The List, Aerial Imagery and Basemaps, Cadastral Parcels and land titles; Department of Communities, Huntingfeild Master Plan and Civil Design. Created by:gputlan

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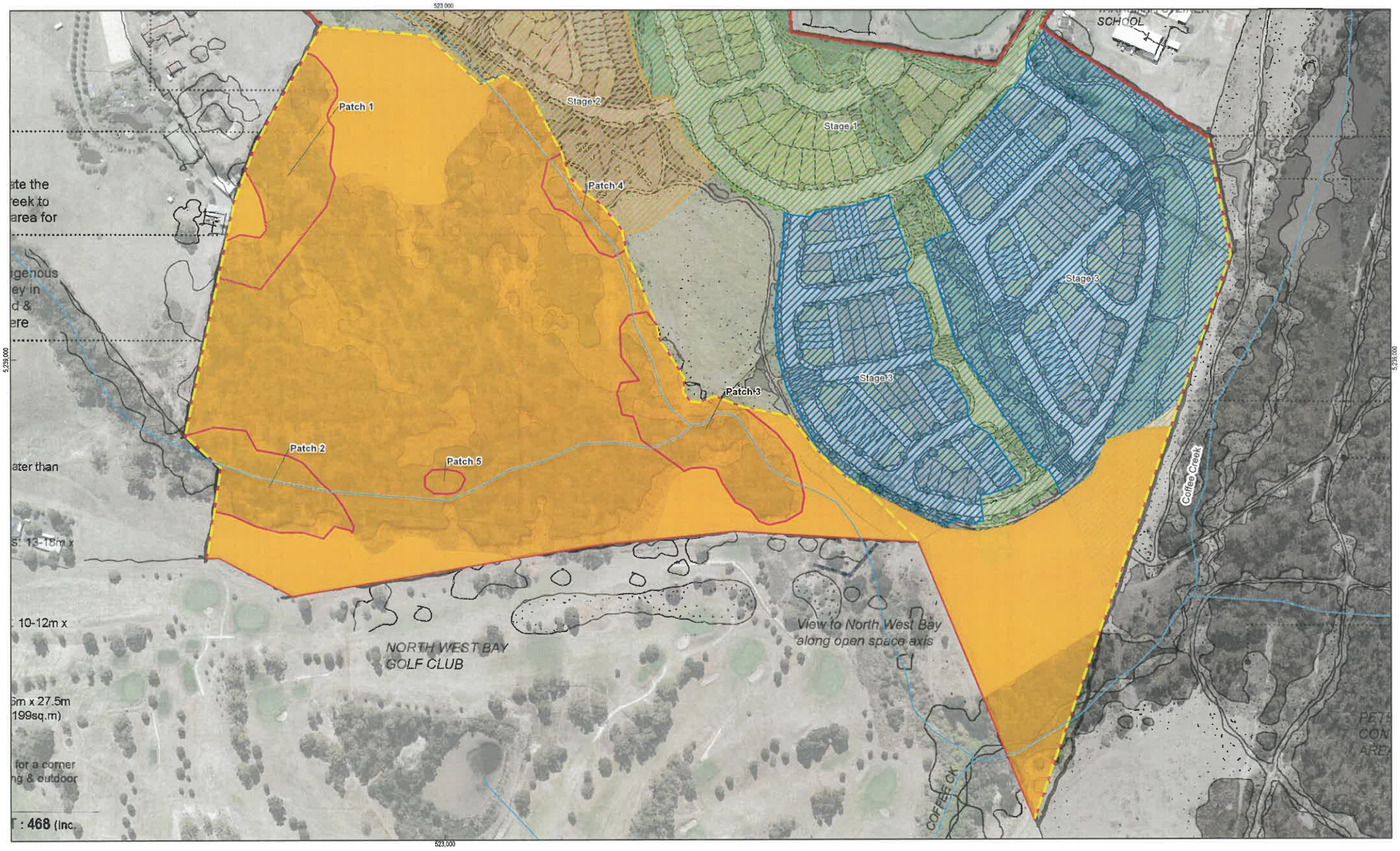

1:3,100 @ A3

0 25 50 75 100

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Huntingfield Site
Maximum Covenant Area
Indicative Fencing Locations
Watercourses

Proposed Subdivision Staging
Stage 1
Stage 2 (Project Area)
Stage 3 (Project Area)

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Homes Tasmania
Huntingfield Masterplan Stages 2 and 3,
Huntingfield, Tasmania (EPBC 2020/8869)
Revegetation and Rehabilitation Plan

Job Number 32-18956
Revision E
Date 07 Nov 2024

Maximum Covenant Area

Figure 4

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Data source: The List, Aerial Imagery and Basemaps, Cadastral Parcels and land titles; Department of Communities, Huntingfeild Miller Plan and Civil Design. Created by:gpullan

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Appendix C

Qualifications

Dr Matthew Webb

POSITION	Ecologist

QUALIFICATIONS

Doctor of Philosophy (2012 – 2018)
Fenner School of Environment and Society, Australian National University, Canberra, ACT, Australia.
Thesis: Spatial ecology and conservation of the critically endangered swift parrot.

Honours in Zoology (2002)
School of Zoology, University of Tasmania, Hobart.
Thesis: Movement patterns and habitat use of the threatened Giant Freshwater Crayfish (*Astacopsis gouldi*).

Bachelor of Applied Science – Environmental Resource Management (1997-1999), Southern Cross University, Lismore, NSW.

Professional appointments

2005 - 2022	Member, Swift parrot Recovery Team
2015 - 2022	Member, Forty-spotted pardalote Recovery Team

Professional Awards

2022 Deni Greene Award, Bob Brown Foundation, Environmentalists of the Year awards. The Deni Greene Award is awarded annually to a professional who has shown outstanding courage in their work for sustainability.

2018 Nominee, NSW Office of Environment and Heritage Eureka Prize for Environmental Research, Difficult Bird Research Group, Australian National University.

RELEVANT SPECIES EXPERIENCE

20 years' experience as a threatened species ecologist, including Forty-spotted Pardalote conservation and habitat management, routinely providing advice on their conservation and habitat management to the Commonwealth, State government agencies, local Councils and not-for-profits. This has included:

- Member of the National Forty-spotted Pardalote Recovery Team (2006-2010)
- Threatened Species Ecologist, DPIPWE (2002-2015). Provision of expert conservation advice specifically focused on the Forty-spotted pardalote.
- Designing and implementing a standardised repeatable population monitoring program for the Forty-spotted pardalote
- Establishing the first nest box program for the forty spotted pardalote

- Supporting researchers at the Australian National University to develop doctorate research programs on forty spotted pardalotes
- Field surveys for the Forty-spotted pardalote and providing reports to ENGOs (e.g. Tasmanian Land Conservancy)
- Identifying suitable habitat outside of the known range, rediscovering Forty-spotted pardalotes on Flinders Island and near Southport Lagoon.

EMPLOYMENT HISTORY

2020 - current **Ecologist**
Enviro-dynamics, Landscape Recovery Foundation, Biodiversity Maintenance Australia

2014 - 2021 **Senior Research Officer**
Fenner School of Environment and Society, Australian National University

2007 - 2014 **Threatened Species Zoologist**
Threatened Species Section, Biodiversity Conservation Branch, Department of Primary Industries, Water and Environment

2004 - 2007 **Threatened Species Project Officer**
Threatened Hollow Dependent Birds Project, Threatened Species Section, Biodiversity Conservation Branch, Department of Primary Industries, Water and Environment

2002 - 2004 **Technical Officer**
Marine Conservation Section, Nature Conservation Branch, Department of Primary Industries, Water and Environment

SELECTED PUBLICATIONS

Webb, M. H., Stojanovic, D., Roderick, M., Saunders, D.L., Holdsworth, M., Baker, G.B., Heinsohn, R. 2021, Swift Parrot *Lathamus discolor.* In: ***The Action Plan for Australian Birds 2021***. Eds Garnett, S.T., Barker, G.B, CSIRO publishing, Melbourne

Bryant S, Alves F, **Webb M**, Stojanovic D. 2020. Forty-spotted Pardalote *Pardalotus quadragintus*. In: *Action Plan for Australian Birds 2021.* Eds Garnett, S.T., Barker, G.B, CSIRO publishing, Melbourne.

Webb, M. H. and Bell, P., 2020. King Island Brown Thornbill and King Island Scrubtit Survey Report March 2020. Unpublished report, BirdLife Australia.

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Webb, M. H., F Alves, A Tulloch, J Shaw, S Bryant, D Stojanovic, R Crates, R Heinsohn. 2019. All the eggs in one basket: Are island refuges securing an endangered passerine? *Austral Ecology* 44 (3), 523-533

Webb, M.H., Stojanovic, D. and Heinsohn, R., 2018. Policy failure and conservation paralysis for the critically endangered swift parrot. *Pacific Conservation Biology,* 25(2), pp.116-123.

Stojanovic, D., Olah, G., **Webb, M.H.**, Peakall, and Heinsohn, R. 2018. Genetic evidence confirms severe extinction risk for critically endangered swift parrots: implications for conservation management. *Animal Conservation*, doi:10.1111/acv.12394

Webb, M. H., Terauds, A., Tulloch, A., Bell, P., Stojanovic, D., & Heinsohn, R. 2017. The importance of incorporating functional habitats into conservation planning for highly mobile species in dynamic systems. *Conservation Biology* 13: 1018-1028.

Crates, R., Terauds, A., Rayner, L., Stojanovic, D. Heinsohn, R. Ingwersen, D., & **Webb, M.H.** 2017. An occupancy approach to monitoring regent honeyeaters. *Journal of Wildlife Management* 81: 669-667

Webb, M.H., Holdsworth, M.C., Stojanovic, D., Terauds, A, Bell, P. & Heinsohn, R. 2016. Immediate action required to prevent another avian extinction: the King Island Scrubtit. *Emu* 116: 223-239.

Heinsohn, R., **Webb, M.**, Lacy, R., Terauds, A., Alderman, R., & Stojanovic, D. 2015. A severe predator-induced population decline predicted for endangered, migratory swift parrots (*Lathamus discolor*). *Biological Conservation* 186: 75-82.

Stojanovic, D., Terauds A, Westgate M.J., **Webb, M.H.**, Roshier, D., & Heinsohn, R. 2015. Exploiting the richest patch has a fitness payoff for the migratory swift parrot. *Journal of Animal Ecology* 84: 1194-1201.

Webb, M. H., Wotherspoon, S., Stojanovic, D., Heinsohn, R., Cunningham, R., Bell, P., & Terauds, A. 2014. Location matters: Using spatially explicit occupancy models to predict the distribution of the highly mobile, endangered swift parrot. *Biological Conservation* 176: 99-108.

Stojanovic, D., **Webb, M.**, Alderman, R., Porfirio, L.L., Heinsohn, R. 2014. Discovery of a novel predator reveals extreme but highly variable mortality for an endangered migratory bird. *Diversity and Distributions* 20: 1200-1207.

Bryant SL, **Webb, M.** 2014 Status of the endangered Forty-spotted Pardalote *Pardalotus quadragintus* on Flinders Island. 2012. In Hamish Saunders Memorial Trust Flinders Island Survey 2012. pp 98–107. Hamish Saunders Memorial Trust, New Zealand & Resource Management and Conservation Division, DPIPWE, Hobart.

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