

Construction and Maintenance
Environment Protection Requirements
Sassafras Wesley Vale Irrigation Scheme Augmentation
EPBC 2023/09666
1 October 2025



1. Purpose and structure

This document has been developed as an appendix to both the Preliminary Documentation and the Construction Environmental Management Plan (**CEMP**) for the Sassafras Wesley Vale Irrigation Scheme Augmentation project (**SWISA**). The purpose of this document is to provide Tasmanian Irrigation (**TI**) environmental management requirements for the construction and maintenance (involving capital works) of the project.

The Environment Protection Requirements (**EPRs**) set out in Section 2 provide the minimum management and mitigation measures to protect Matters of National Environmental Significance (**MNES**) and the broader environment during construction and maintenance of the project. Management and mitigation measures relevant to the operation of the project (i.e. irrigation activities) are provided in a separate Operational Environmental Management Plan (**OEMP**).

Words printed in **bold** in this document are defined in the glossary and definitions section of the **CEMP**. The accountability column of the **EPRs** must be referenced against Table 5.1 of the **CEMP** which specifies roles, responsibilities and minimum qualifications. Whilst each **EPR** may specify accountability, **TI**, as the approval holder, remain ultimately accountable for compliance with the approval conditions.

The **EPRs** have been developed by **TI** based on relevant industry guidelines and standards, as well as the impact assessments undertaken for the project.

The following **EPRs** apply for the project:

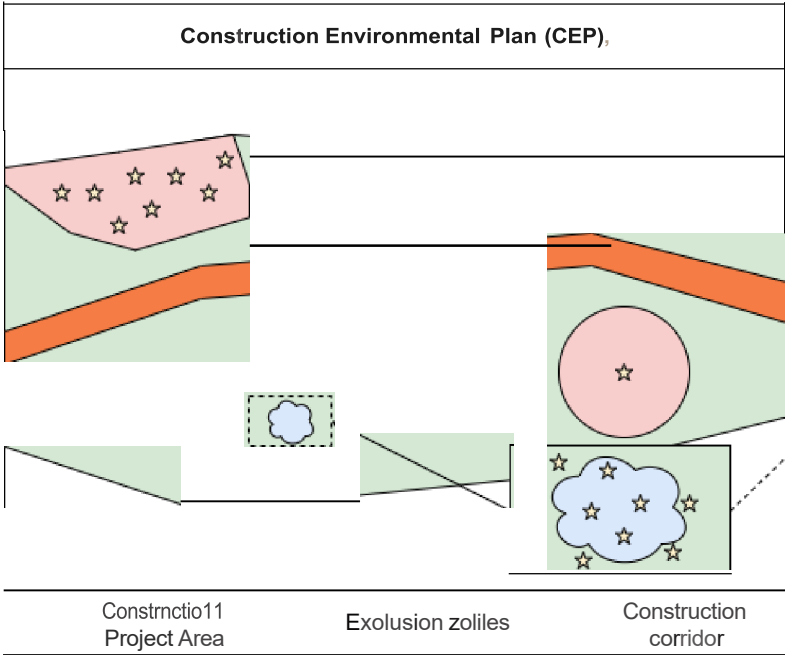
1. Flora and fauna
 - 1A. Tasmanian wedge-tailed eagle
 - 1B. Burrowing crayfish
 - 1C. Green and gold frog
 - 1D. Australian grayling
 - 1E. Den management (Tasmanian devil, spotted quoll, eastern quoll)
 - 1F. Tasmanian devil management – [REDACTED]
 - 1G. Hollow-bearing tree management (masked owl, swift parrot, blue-winged parrot)
 - 1H. Roadkill management plan
 - 1I. Threatened flora and vegetation communities
2. Weeds, pests, and disease
3. Watercourses
4. Sediment and erosion
5. Noise and vibration
6. Air quality
7. Heritage
8. Environmentally hazardous materials
9. Bushfire risk
10. Waste
11. Construction traffic
12. Contaminated soil and acid sulphate soil
13. Rehabilitation and reinstatement

The **EPRs** identify additional management plans to be prepared by the contractor based on the specific site conditions and construction methodology (post-approval of the project), however, all requirements necessary to protect **MNES** are specified in the **EPRs**. The required management plans are summarised in Section 3.

The **EPRs** must be applied through the **CEMP**, in conjunction with the site-specific Construction Environmental Plans (**CEPs**) and Construction Environmental Tables (**CETs**) presented in Section 4. An overview of the **CEPs** and **CETs** is shown in **Figure 1-1**.

Where there is a discrepancy between the **EPRs** and the site-specific measures outlined in the **CEP/CET**, the site-specific measure shall prevail. Any additional management and mitigation measures identified in the management plans to be prepared by the contractor will be incorporated into the **CEMP**, **CEPs** and **CETs** as required.

Each section of the project area has a CEP which maps the values present and delineates exclusions. TI will define the final construction corridor within the approved survey corridor.



The boundary of the CEP is the Construction Project Area. The contractor will adopt the CEP and the final construction corridor delineated by TI, which will be the impacted area. The final construction corridor will not result in any additional impacts from the approved footprint.

If there is too much detail for an inset, a subsidiary Detailed Construction Environmental Plan (DCEP) will be prepared instead.



Each CEP has an accompanying CET

The CET identifies the relevant generic controls (EPRs) for this project section and then describes section-specific controls.

Construction Environmental Table (CET)
Relevant generic controls (EPRs)
Site specific controls

Adopted by the contractor and Ulen added to if required by their Environmental Management System. Any additions are to be approved by TI under the terms of the contract.

Figure 1-1 Overview of CEPs and CETs

2. Environment Protection Requirements

As outlined in Section 1, the **EPRs** presented in this section have been developed by **TI** based on relevant industry guidelines and standards, as well as the impact assessments undertaken for the project, including:

- Sassafras-Wesley Vale Irrigation Scheme Augmentation EPBC Preliminary Documentation Report (BMT, 2024)
- Sassafras-Wesley Vale Irrigation Scheme Augmentation Natural Values Assessment (North Barker Ecosystem Services, 2024)
- Sassafras Wesley Vale Irrigation Scheme Augmentation Project Aboriginal Heritage Assessment Report (CHMA, 2023)
- Sassafras Wesley Vale Irrigation Scheme Augmentation Project Historic Heritage Assessment Report (CHMA, 2023a)
- Sassafras Wesley Vale Irrigation Scheme Geotechnical Investigation (Pitt & Sherry, 2023)
- Preliminary Traffic Assessment Sassafras-Wesley Vale Irrigation Scheme Augmentation Project (Ratio, 2024)
- Tasmanian devil impact assessment, Sassafras Wesley Vale Irrigation Scheme Augmentation, Latrobe (envirodynamics, 2024)
- Sassafras-Wesley Vale Irrigation Scheme Augmentation, Tasmania. Australian Grayling (*Prototroctes maraena*) Species Impact Assessment (elgin associates, 2024)

The guidelines and standards referenced by the **EPRs** are summarised below:

- Approved Management Method (**AMM**) for the Disposal of Clean Fill Type 1 and Type 2 (EPA Tasmania, 2024)
- Australian and New Zealand guidelines for fresh and marine water quality. Volume 1, The guidelines/Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand. [Accessed 2 23/07/24 Available from URL: <http://www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html> ANZECC (2000)
- Best Practice Guidelines for Wildlife Rehabilitation (DPIPWE, 2021)
- Bunding and Spill Management Guidelines (EPA Tasmania, 2015)
- Default Guideline Values (DGVs) for Aquatic Ecosystems of the Mersey Catchment, Environment Protection Authority (EPA 2021a)
- Default Guideline Values (DGVs) for Aquatic Ecosystems of the Rubicon Catchment, Environment Protection Authority (EPA 2021b)
- Erosion and Sediment Control – the fundamentals for development in Tasmania (TEER, 2023)
- Fauna Technical Note 1: Eagle Nest Searching, Activity checking and Nest Management (FPA, 2024)
- Guidelines for Safe and Effective Herbicide Use Near Waterways (DPIPWE, 2012)
- Hygiene protocols for the control of diseases in Australian frogs (Murray, et al., 2011)
- Information Bulletin No. 105 – Classification of Contaminated Soils (EPA Tasmania, 2018)
- Keeping it clean - A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens (NRM South, 2010)
- Municipal plant species list – A guide of appropriate plant species for propagation and restoration NRM South and The Understorey Network, 2014)
- Noise Measurement Procedures Manual (EPA Tasmania, 2008)
- Revegetation project, a best practice guide for Tasmania (NRM North, 2016)
- Tasmanian Acid Sulphate Soil Management Guidelines (DPIPWE, 2009)
- Tasmanian Washdown Guidelines for Weed and Disease Control (DPIPWE, 2004)

- Unanticipated Discovery Plan – Procedure for the management of unanticipated discoveries of Aboriginal relics in Tasmania (AHT, 2024)
- Weed and Disease Planning and Hygiene Guidelines (DPIPWE, 2015)
- Survey guidelines and management advice for development proposals that may impact the Tasmanian devil (*sarcophilus harrisii*) (NRE Tas, 2023)
- Marsupial pouch checking guide (Animal Rescue Cooperative, ND)
- TASVEG VCA Manual (DPIPWE, 2020)
- Native Vegetation Revegetation planting standards – Guidelines for establishing native vegetation for net gain accounting (Department of Sustainability and Environment (Vic), 2006)

EPR 1 – Flora and fauna

EPR	Mitigation measure	Accountability
1.1	The final construction corridor (as identified by TI) is to be clearly demarcated on site by the Contractor. Spatial data for the construction corridor will be made available to the Contractor by TI . There will be no impacts outside of the construction corridor . Information on impact limits will be included in the site induction.	Contractor
1.2	Areas indicated on CEPs as exclusion zones (or known threatened flora and fauna locations immediately adjacent to the construction corridor) will be clearly marked by flagging and signage in the construction corridor by the Contractor prior to construction commencing. Exclusion zones will be verified on site by a suitably qualified ecologist . Spatial data for the exclusion zones will be available to the Contractor. There will be no impacts inside an exclusion zone . Information on how exclusion zones are marked will be included in the site induction. The Contractor will communicate exclusion zones relevant to the day's work to all relevant project personnel in pre-start meetings.	Contractor / TI's suitably qualified ecologist
1.3	The construction corridor will be inspected by the Contractor and TI's project representative prior to construction commencing, and after the exclusion zones have been demarcated, to ensure that the locations of threatened flora and fauna habitat are understood. Construction is not to commence until TI's project representative has approved the location of the corridor and any exclusion zones .	Contractor/ TI's project representative
1.4	Tree protection zones (TPZs) will be delineated by markers, construction tape webbing or other barriers by the Contractor's Project Environmental Advisor. Equipment, plant, vehicles, or material must not be stored within the TPZ . Where a full TPZ cannot be maintained, a suitably qualified arborist will be consulted to assess viability of keeping the tree. In assessing the viability, the <u>suitably qualified arborist will:</u> • Prepare an assessment report of the tree/s to be impacted; • Supervise and document all works carried out within the TPZ of retained trees; and • Conduct post-construction inspection of trees to determine whether incursion will lead to loss. Impacted trees are to be retained to the maximum extent possible to preserve the nesting value for relevant species.	Contractor's Project Environmental Advisor / TI's suitably qualified arborist
1.5	The environmental site induction, to be provided by TI , must include information on environmental permits obtained for the project (including relevant conditions). No impacts to native wildlife (including, but not limited to direct impact, removal of a nest/den/ burrow, and relocation of an individual) listed under the Tasmanian Threatened Species Protection Act 1995 or under Schedule 1, 5 or 8 of the Tasmanian Nature Conservation (Wildlife) Regulations 2021 (Tasmanian Nature Conservation Act 2002) are permitted without a permit approved	Contractor/ TI

EPR	Mitigation measure	Accountability
	under the relevant legislation." No impacts to MNES may occur unless specified in the EPBC approval (EPBC 2023/09666).	
1.6	Vegetation clearance must be minimised as much as possible within the construction corridor . Blanket clearing of vegetation within the construction corridor is not permitted under any circumstances and a staged approach must be taken in consultation with TI project representative.	Contractor
1.7	Existing roads and tracks, including those through exclusion zones may be used to access the construction corridor if there is no departure off the existing formed road. Vehicles must not be parked in exclusion zones . The edge of any road through an exclusion zone must be clearly defined with flagging tape and signage.	Contractor
1.8	Any previously unidentified habitat elements that support fauna will be subject to the application of the relevant EPRs or, if no EPR applies, managed in consultation with the TI's project representative. Works with the potential to disturb fauna habitat must cease until appropriate EPRs or other controls are applied.	Contractor / Contractor's Project Environmental Advisor / TI's project representative
1.9	To minimise the risk of entrapment and injury to fauna, the following measures must be implemented: - Measures will be put in place such that if fauna enter any trench, there must be enough ramps (with slopes less than 45 degrees) placed within the trench to allow animals to readily vacate the trench; - The period trenches are open must be minimised to the maximum extent; - Trenches must be progressively backfilled to cover each day's laid pipe; - Open trenches must have effective wildlife proof fencing overnight or while operations are not in progress; - The ends of pipe within trenches or stored welded pipe must be closed prior to cessation of works nightly to ensure that fauna cannot enter the pipe; - Inspection of trenches undertaken in accordance with EPR 1.10..	Contractor/TI
1.10	Open trenches and excavations will be inspected twice daily (upon arrival and exit of the site) by the Contractor for trapped fauna. The Contractor must notify TI immediately if fauna is found in trenches or pipes during inspections. Work must cease until the animal has vacated on its own accord or a permit has been obtained to relocate the animal (protected under state or federal legislation) by appropriately trained personnel approved by TI. If native fauna are found trapped or injured within an open trench or pipeline, Bonorong will be contacted for advice (0447 ANIMAL). For trapped or injured livestock, the Contractor must immediately notify TI. . Dead fauna must be removed from the project site to reduce the potential for secondary impacts to scavenging species. All instances of fauna entrapment must be recorded, including species, condition, date, time and location coordinates. Data will be reported to TI on a weekly basis.	Contractor's Project Environmental Advisor / Contractor / TI

EPR	Mitigation measure	Accountability
1.11	The following must be reported to TI immediately: • All fauna deaths or injuries caused by the project. • All threatened species deaths and injuries (including roadkill). • Livestock injuries or deaths within the construction project area.	Contractor's Project Environmental Advisor
1.12	Where a threat to wildlife is identified during construction, TI's project representative must be notified immediately, and Bonorong (0447 ANIMAL) or NRE Tas contacted for advice. Works may need to cease if wildlife is in danger or has been harmed. For non-threatened species only suitably qualified wildlife carers should attempt to relocate wildlife, under an approved permit from NRE Tas. Threatened species with an EPR must be relocated in accordance with the relevant EPR and permit to take.	Contractor's Project Environmental Advisor / TI's project representative / Suitably qualified wildlife carer
1.13	No domestic pets (for example dogs) are permitted on site at any time. Signage will be displayed at work sites to state that pets are prohibited.	Contractor

EPR 1A – Tasmanian wedge-tailed eagle

EPR	Mitigation measure	Accountability
1A.1	Construction works will not be undertaken within 500 m direct distance and/or 1,000 m line of sight of an active eagle nest during the eagle management constraint period except in the circumstances specified in EPR 1A.4.	Contractor/TI
1A.2	Aerial nest searches must be undertaken at least once every two years to detect all active eagle nests within 1,250 m of any construction works planned during the eagle management constraint period .	Ti
1A.3	Planned maintenance works must not be conducted within 500 m of any active eagle nest during the eagle management constraint period .	Contractor/TI
1A.4	If unplanned repair work or maintenance is required during the eagle management constraint period (1 July to 31 January), except where work is urgently required to avert serious threat to life, property, or the environment, the following measures must be observed: • All known eagle nests must be assumed to be active, unless a nest activity assessment has been conducted. • All workers must be aware of all active eagle nest locations prior to entering the construction project area. • No person or vehicle must go within 200 m of an active eagle nest. • No person must look directly towards an active eagle nest when they are within 1,000 m of an active eagle nest. • No heavy vehicles are permitted within 1,000 m line of site or 500 m direct distance of an active eagle nest. • No more than two light vehicles are permitted within 1,000 m line of site or 500 m direct distance of an active eagle nest within a seven-day period. Vehicles must not enter these areas more than twice within a seven-day period. • No vehicle is to remain within 1,000 m line of site or 500 m direct distance of an active eagle nest for more than 30 minutes (total) within a seven-day period, unless a suitably qualified eagle specialist has provided prior written agreement specifying the required safeguards and mitigation measures and justification that harm will not occur. • Workers should not wear hi-visibility clothing whilst in the allowed proximity to an active eagle nest, except where this is an essential safety requirement. • No vehicles are to be parked within sight of an active eagle nest. • Where practical, workers should remain within 5 m of each other, and not take work breaks within 500 m of an active eagle nest.	Contractor/TI

EPR	Mitigation measure	Accountability
1A.5	Where unplanned repair work or maintenance must occur during the eagle management constraint period and the work is urgently required to avert serious threat to life, property, or the environment, the work must adhere to the measures listed in EPR 1A.4 as closely as possible, whilst giving priority to averting the serious threat to life, property, or the environment.	TI
1A.6	No clearance and conversion of potential nesting habitat (old growth native forest with adequate shelter and large trees suitable for nesting) is to occur within 200 m of a known eagle nest, regardless of the activity status of the nest	Contractor/ TI
1A.7	Any blasting works must be authorised by TI. Blasting works must not occur within the eagle management constraint period , and works must demonstrate that there will be no impacts to eagles through noise and vibration. This may include the provision of noise and vibration modelling.	Contractor/ TI

EPR 1B – Burrowing crayfish

EPR	Mitigation measure	Accountability
1B.1	The Contractor will manage site inductions, which will include training in the identification of Burrowing crayfish (BCF) habitat elements, and environmental awareness materials will be provided to construction personnel to assist with identifying BCF habitat elements. Further training for supervisory personnel must be delivered by a suitably qualified ecologist .	Contractor's Project Environmental Advisor / TI's Suitably qualified ecologist / TI
1B.2	Pre-construction surveys will be undertaken by a suitably qualified ecologist within all areas of known potential habitat (as shown on CEPs) within 20 m of the construction corridor . Surveys will be undertaken between May and November, no more than six months prior to construction commencing within a given area.	TI's Suitably qualified ecologist
1B.3	Where an area of known potential habitat (as shown on CEPs) cannot be surveyed due to dense vegetation cover, the area will be cleared via slashing under supervision by a suitably qualified ecologist to facilitate searching for burrows by a suitably qualified ecologist . Clearance is only permitted to the extent required to achieve ground visibility. Timing as 1B.2 . If an area of known potential habitat cannot be surveyed, it will be treated as occupied and the requirements under EPR 1B.7 applied.	TI's Suitably qualified ecologist
1B.4	Where possible, the construction corridor will be micro-sited in consultation with a suitably qualified ecologist to minimise impacts to known potential habitat (as shown on the CEPs) and known and discovered BCF chimneys. The construction corridor must be clearly demarcated by the Contractor and reduced as much as possible in areas of known potential habitat (as shown on the CEPs).	Contractor / TI's suitably qualified ecologist
1B.5	Within specified known locations of BCF (as shown on CEPs), installation of pipeline is to be via HDD at a minimum depth of 5 m when transiting under the chimneys. No ground-breaking works or machinery will be permitted within these areas.	Contractor
1B.6	A 5 m exclusion zone (fenced) must be erected around all known potential habitat (as shown on CEPs) and confirmed BCF chimneys that are to be retained (see EPR 1B.2) within 20 m of the construction corridor . This includes specified areas of known potential habitat where pipeline is to be installed via HDD (see EPR 1B.5). Where a 5 m exclusion zone intersects with a relocation management area , any habitat within 5 m of active work will be treated as impacted and EPR 1B.7 will apply.	Contractor's Project Environmental Advisor
1B.7	<u>Salvage and relocation</u> Immediately prior to any ground disturbance (i.e. on the same day) to known locations of BCF within 5 m of the construction corridor that cannot be avoided (as shown on the CEPs), known unavoidable locations detected in EPR1B.2 - 1B.3 , or within known potential habitat (as shown on CEPs) that cannot be avoided and cannot be confirmed as free from BCF (Relocation management area), salvage and relocation of any burrowing crayfish will	TI's suitably qualified ecologist

EPR	Mitigation measure	Accountability
	be undertaken by a suitably qualified ecologist (ecologist must have experience in the identification of <i>Engaeus granulatus</i> animals and habitat and must be trained in the handling <i>Engaeus granulatus</i>) in accordance with a valid 'Permit to Take' under the <i>Nature Conservation Act 2002</i> (Tas). Salvage and relocation must be undertaken as follows: • Salvage and relocation must be conducted between May and August (inclusive); • Burrowing crayfish will be removed using disinfected hand tools and washed in stream water or dechlorinated water; • Burrowing crayfish will be examined to identify species and assess condition; • Healthy individuals will be stored in individual containers with local stream water or dechlorinated water (to be regularly replaced) and placed on ice or in an esky; • Injured individuals will be euthanised at the discretion of the ecologist through being placed in an ice slurry for 30 minutes. Euthanised burrowing crayfish will be preserved and lodged with an appropriate institution within three months of collection; • Upon completion of salvage, the ecologist will approve a relocation management area before commencement of works and will supervise all works within the area. • All excavated spoil from a relocation management area will be examined by the ecologist for burrowing crayfish and any individuals salvaged for relocation (per the process outlined above). • Burrowing crayfish must be released into suitable habitat as close as possible to the excavation site (in an area where likelihood of future disturbance is minimal), on either the same day as capture or the following day. Individuals will be released into truncated burrows, or either artificial burrows (adults) or shallow holes (juveniles), tail first, and covered with a small stone or block of wood to prevent individuals from immediately leaving. All salvage and relocation data must be recorded, including date and location of excavation, weather conditions, names of persons involved in the excavation works, number and species of burrowing crayfish salvaged, relocated (and coordinates of relocation), or euthanised, and any issues identified. Data will be reported to TI on a weekly basis, except for confirmed BCF deaths, which must be notified immediately to TI, no later than 24 hours.	
1B.8	No vehicle traffic is permitted through relocation management areas. Access to construction sites must be contained within the construction corridor, or on pre-existing roads and tracks. Vehicles must not be parked within relocation management areas.	Contractor

EPR	Mitigation measure	Accountability
1B.9	In the event of an unanticipated BCF discovery in the construction corridor that cannot be avoided through micro-siting, the Contractor must cease all works in the area until the salvage and relocation process can be undertaken by a suitably qualified ecologist in accordance with EPR 1B.7 .	Contractor / TI's suitably qualified ecologist
1B.10	Upon completion of works within a relocation management area , the area must be fenced by the Contractor under supervision by the suitably qualified ecologist until rehabilitation is complete. No vehicles are permitted within this area to prevent soil compaction. This includes habitat areas where salvaged BCF have been relocated to, even if outside the relocation management area .	Contractor / TI's Suitably qualified ecologist
1B.11	The WDMP (see EPR 2.1) must allow for the retention of woody weed species (such as gorse and blackberry) within known BCF habitat areas, unless the area is fenced to prevent livestock access. These woody weed species protect BCF against livestock trampling. The WDMP must be reviewed and approved by TI.	Contractor / TI's suitably qualified ecologist
1B.12	<u>Rehabilitation and restoration</u> • Undertake restoration with minimal soil disturbance and establish a moderate to high percentage cover of vegetation, including bare ground areas, rocks, and logs. • Plant species must reflect the local vegetation community and include sedge and grass species such as common spikesedge (<i>Eleocharis acuta</i>) in low densities to prevent spreading, tall spikesedge (<i>Eleocharis spachelata</i>), tall sedge (<i>Carex appressa</i>), rushes (<i>Juncus spp.</i>), and tussock grasses (<i>Poa labillardierei</i>). Where possible, use local seed or propagules. • Refer to the Threatened Species Scientific Committee (2008) Conservation advice for <i>Engaeus granulatus</i> (Central North Burrowing Crayfish) Department of State Growth (2015). • Rehabilitated areas must be inspected by a suitably qualified ecologist to ensure above requirements are met.	Contractor / TI's suitably qualified ecologist
1B.13	In accordance with EPR 1.5 no impacts to wildlife (including non-threatened native crayfish species), or products of wildlife, may occur without a valid 'Permit to Take' under the <i>Nature Conservation Act 2002</i> (Tas). Required permits will be obtained by TI.	Contractor / TI

EPR 1C – Green and gold frog

EPR	Mitigation measure	Accountability
1C.1	All permit conditions must be complied with. Where there is a discrepancy between the EPRs and the permit conditions, the permit conditions will prevail.	Contractor
1C.2	The Contractor will manage site inductions for construction personnel, which will include training in the identification of green and gold frogs, green and gold frog habitat elements, signs and symptoms of chytrid fungus infection, measures to be followed if a green and gold frog is identified during works (including measures to protect other native frogs), and the on-site hygiene protocols required to prevent the transmission and spread of chytrid fungus (see EPRs 2.1, 2.4, and 2.6). Environmental awareness materials will also be provided to construction personnel to assist with identifying GGFs and their habitat elements. Further training for supervisory staff is to be delivered by a suitably qualified ecologist . Induction and environmental awareness materials relevant to the EPRs will be provided by TI.	Contractor's Project Environmental Advisor / TI's suitably qualified ecologist / TI
1C.3	The construction corridor must be clearly demarcated by the Contractor and reduced as much as possible in areas of known potential habitat (as shown on the CEPs).	Contractor
1C.4	Exclusion zones (including a 5 m buffer) will apply to known potential habitat located immediately outside of the construction corridor (within 20 m). Any additional areas identified as potential GGF habitat during construction must also be marked as exclusion zones in GIS by the suitably qualified ecologist . Exclusion zones must be installed by the Contractor and checked by a suitably qualified ecologist prior to commencing construction.	Contractor / TI's suitably qualified ecologist
1C.5	No more than two areas containing GGF habitat are to be open for construction at any given time.	Contractor / Contractor's Project Environmental Advisor
1C.6	Pre-clearance surveys of GGF habitat (as shown on the CEPs) must be undertaken by a suitably qualified ecologist the morning of any construction within 100 m of known potential habitat for the GGF . Pre-clearance surveys must be undertaken prior to any construction vehicles accessing the area or construction works commencing. The purpose of the pre-clearance surveys and checks is to assess habitat potential within the Management Area and relocate any GGF individuals. The suitably qualified ecologist must remain on site for the duration of works within an area of GGF habitat to oversee and implement relocation (1C.8) of individual GGF .	TI's suitably qualified ecologist
1C.7	If pre-clearance surveys (as per 1C.6) determine that more than 5 individual GGF are present within a given area of habitat, frog-proof fencing must be installed by the Contractor under supervision by a suitably qualified ecologist to prevent GGF re-entry to the construction corridor after the application of 1C.8. Frog-proof fencing must remain in place for the duration of works within a given area of GGF habitat.	TI's suitably qualified ecologist / Contractor
1C.8	Relocation of GGFs must be undertaken by a suitably qualified ecologist , in accordance with the requirements of a current Permit to Take and the Hygiene protocols for the control of diseases in Australian frogs (Murray, et al., 2011). Frogs will be relocated to a suitable waterbody within the same habitat system, located a minimum of 100 m	TI's Suitably qualified ecologist

EPR	Mitigation measure	Accountability
	from the construction corridor. If the same habitat is not available, a suitable release habitat can be selected at the discretion of the ecologist. Suitable habitat is habitat must be a still or slow flowing waterbody of appropriate size with vegetated margins, no observed predators, and connectivity to other waterbodies (within 300 m). Other frog species identified during pre-clearance surveys will also be relocated using the same methods provided relocations are covered by a valid permit to take.	
1C.9	Short-term handling and relocation of frogs and tadpoles will be undertaken in accordance with the following animal handling requirements: • Capture, handling and housing of wild amphibians should be minimised or avoided where possible; • Where handling is necessary, care must be taken to ensure individuals do not have their exposure to pathogens elevated over their background exposure levels; • When handling frogs or tadpoles use well rinsed, single use, non-powdered vinyl gloves. A new set of gloves must be used for each animal; • Frogs are to be transported individually in a clean and dry container. The container must be cleaned using an amphibian friendly chemical as described in Table 1 of the Hygiene protocols for the control of diseases in Australian frogs (Murray, et al., 2011), and dried between frogs; • Adults should not be held in groups; • Tadpoles from the same water body may be housed for short periods in a common container, although overcrowding should be avoided; and • Longer holding times (>60 min) will require changes to water and the provision of appropriate food (>24 h).	TI's Suitably qualified ecologist
1C.10	Dead amphibians or live animals showing clinical signs of disease (e.g., abnormal posture or behaviour, such as hind legs stretched behind body, wobble or lack of fleeing, or skin changes such as skin discolouration, peeling or ulceration) must be regarded as having a high infection risk to healthy animals and rigorous hygiene measures are required. Sick and dead frogs should be collected and sent for disease diagnosis. Collection: • Do not use bare hands to handle sick or dead frogs; • Disposable gloves should be worn when handling sick or dead frogs; • New gloves and a clean plastic bag should be used for each frog specimen to prevent cross-contamination; and • If the frog is dead, keep the specimen cool and preserve as soon as possible to avoid decomposition.	TI's Suitably qualified ecologist

EPR	Mitigation measure	Accountability
	Preserving specimens: - Specimens can be preserved/fixed in 70% ethanol or 10% buffered formalin; - Cut open the belly and place the frog in about 10 times its own volume of preservative; and - Where no preservative is available, specimens can also be frozen. If numerous frogs are collected, some should be preserved and some should be frozen. Portions of a dead frog can also be sent for analysis (e.g., a preserved foot, leg or a portion of abdominal skin). Transportation: - If the frog is alive and likely to survive transportation, place the frog into either a moistened cloth bag with some damp leaf litter or into a plastic bag with damp leaf litter and partially inflated before sealing; - Remember to keep all frogs separated during transportation; - If the frog is alive but unlikely to survive transportation (death appears imminent), euthanize the frog (using NRE Tas's Best Practice Guidelines for Wildlife Rehabilitation) and place the specimen in a freezer or preservative. Once frozen/preserved the specimen is ready for shipment. This can only be conducted under approval from the NRE Tas Wildlife Services (Ph: (03) 6165 4305 or email wildlife.services@nre.tas.gov.au); - All containers should be labelled showing at least the species (if known), date and collection location; - Preserved samples can be sent in jars or wrapped in wet cloth, sealed in bags and placed inside a padded box; - Send frozen samples in an esky with dry ice; - Place live or frozen specimens into a small Styrofoam esky. Seal esky with packaging tape before sending; and - Send the package by courier and declare any hazardous or flammable contents (e.g., 70% ethanol)	
1C.11	Pre-clearance searches must be recorded on a register, including time/date of search, species identified, life stage (tadpole/frog), time/date of capture, location of capture, time/date of relocation, relocation area, and any other additional information collected. A video or photograph must be taken for the capture and relocation of frogs.	TI's Suitably qualified ecologist
1C.12	Vehicle access to the construction corridor in areas of known potential habitat must be via pre-existing roads and tracks. No vehicle parking within known potential habitat is permitted, except when necessary for exclusion zone demarcation. Upon completion of works within a Green and Gold Frog Habitat Management Area , no vehicles are to re-enter the area without further pre-clearance survey.	Contractor

EPR	Mitigation measure	Accountability
1C.13	<u>Rehabilitation and restoration</u> • Implement best practice guidelines (Bruzze et al., 2000) for the control of Blackberry and the Strategic Plan (ARMCANZ, 2000) for the control of Gorse. • Undertake restoration with minimal soil disturbance and establish a moderate to high percentage cover of vegetation, including bare ground areas, rocks, and logs. • Plant species must reflect the local vegetation community and include sedge and grass species such as common spikesedge (<i>Eleocharis acuta</i>) in low densities to prevent spreading, tall spikesedge (<i>Eleocharis sphacelata</i>), tall sedge (<i>Carex appressa</i>), rushes (<i>Juncus spp.</i>), and tussock grasses (<i>Poa labillardierei</i>). Where possible, use local seed or propagules. • Large woody debris around the outer pond margins and logs along the banks are important for Green and Gold Frogs. • Refer to Green and Golden Frog (<i>Litoria raniformis</i>) Management Guidelines. Report prepared by GHD for specific rehabilitation requirements. • Rehabilitated areas must be inspected by a suitably qualified ecologist to ensure above requirements are met.	Contractor / TI' s suitably qualified ecologist
1C.14	In accordance with EPR 1.5 no impacts to wildlife (including non-threatened native frog species), or products of wildlife, may occur without a valid 'Permit to Take' under the <i>Nature Conservation Act 2002</i> (Tas). Required permits will be obtained by TI.	Contractor / TI
	See also	
2.7	Only biocides endorsed by the Australian Pesticides and Veterinary Medicines Authority will be used. There will be no spraying within 5 m of aquatic habitat or remnant native vegetation areas. Application of herbicides will be in accordance with the Guidelines for Safe and Effective Herbicide Use Near Waterways (DPIPWE, 2012). Removal of weeds within areas mapped as GGF habitat or dispersal routes must be through using manual methods. No use of biocides within areas mapped as GGF habitat or dispersal routes is permitted.	Contractor

EPR 1D – Australian grayling

EPR	Mitigation measure	Accountability
1D.1	Construction of in-stream structures or any other major in-stream works must not occur during peak migration periods in known habitats. This includes downstream spawning migrations from March to April, and recruitment migrations from November to January.	Contractor
1D.2	If in-stream excavation or construction of in-stream structures in known or likely habitat is required, a separate impact risk assessment must be conducted by a suitably qualified aquatic fauna expert .	TI's suitably qualified aquatic fauna expert / TI
1D.3	A fish protection screen will be installed on the outer face of the pump wells at GBPS , parallel to the direction of river flow. The screen will be sized so that approach velocities are no greater than 0.1 m/s.	Contractor / TI
See also		
3.14	Horizontal Directional Drilling procedure - Pipelines must be installed an appropriate depth below the stream bed to prevent exposure of the pipe in the future as the streambed erodes. The highest point of pipe or casement must be at least 1m below bed level. - Where vehicle or machinery access across the waterway is required, it should be ensured that excessive disturbance of the stream bed and banks do not result from activities. - Any disturbance should not cause erosion or suspension of sediment (see EPR 4). - No temporary structures are to be erected within the waterway that may constitute a barrier to fish passage for more than 24hrs.	Contractor
3.15	Trenching procedure - Pipelines must be installed an appropriate depth below the stream bed to prevent exposure of the pipe in the future as the streambed erodes. This may require that where the streambed is found to be constituted by erosive material, a greater depth is necessary. The highest point of pipe or casement must be at least 1m below bed level. - Where vehicle or machinery access across the waterway is required, it should be ensured that excessive disturbance of the stream bed and banks do not result from activities. - Installation of pipelines through waterways with Australian Grayling present only occurs during low flow conditions between the months of January to April. - Bed composition and profile must be returned to pre-works conditions. - Any scour protection installed in the bed of a waterway must be installed at a minimum of 30cm below bed-level and covered with bed material that is naturally present within the same waterway.	Contractor

EPR	Mitigation measure	Accountability
	- Any engineered erosion control materials such as geotextile products are installed so that they will not be exposed to or enter the waterway under extreme weather conditions or over time as a result of erosion. - Backfill material used within the bed and banks of a waterway must: - be obtained locally and replicate material existing within the waterway. - be free of contamination including but not limited to acid sulphate soils, heavy metals, hydrocarbons. - Where riparian vegetation is removed or disturbed, revegetation is conducted within 6 months of completion of works. - Where trenching occurs in perennial waterways, or during any flow conditions other than cease to flow, the below requirements must be met: - Temporary diversion, damming or obstruction of water flows must not exceed 7 days. - Any temporary coffer dams constructed in the waterway must use material that is free from contamination as described above. - All coffer dam material is removed from the waterway following construction except where it meets the criteria for appropriate back-fill material as described above and does not alter the profile of the waterway.	
3.16	Water crossing monitoring All water crossings are to be inspected by TI after at least 12 months, and within 24 months of completion of works during low-flow conditions to ensure that: - Revegetation is likely to be successful - No significant erosion of the bed and banks is occurring because of the works - No infrastructure installed under or adjacent to the waterway has been exposed because of erosion. Where works have resulted in a change to hydrology, TI will engage a suitably qualified aquatic fauna expert i and remedial works conducted (if appropriate) to ensure no ecological impacts that may impact Australian Grayling occur.	TI / TI's Suitably qualified aquatic fauna expert
4.1	Erosion and Sediment Control Plan An Erosion and Sediment Control Plan (ESCP) must be prepared by the Contractor, in accordance with Erosion and Sediment Control – the fundamentals for development in Tasmania (TEER, 2023). TI's project representative will be responsible for reviewing and approving the ESCP. Due to the physical and temporal scale of the project, ESCP may be written and implemented in stages as appropriate (to be determined based on the construction schedule and in consultation with the TI's project representative).	Contractor / TI's project representative

In accordance with Erosion and Sediment Control – the fundamentals for development in Tasmania (July 2023), the ESCP must contain the following:

- Site plan(s), including plan name, document version, date and author, and stage (if part of a series of staged ESCPs). Site plans must have a north point, scale, all property boundaries, and contours.
- General soil description
- Site layout, including location and approximate volume of soil disturbance, and stockpile locations.
- Watercourses
- Existing stormwater infrastructure
- Location and details (dimensions, lining, and/or velocity control) of all proposed temporary drainage controls (including diversion drains and internal drains directing ‘clean’ runoff to a level spreader)
- location and details of all proposed erosion controls, including location of vegetation to be retained, with exclusion zones clearly marked
- location of sediment controls (including the location and design of stabilised site access points)
- location of **wash-out area** and associated controls for potentially polluting activities and machinery cleaning
- a statement of who is responsible for establishing and maintaining all controls (including contact details)
- the installation sequence for different controls
- the maintenance program for controls

4.2 Water Quality Management Plan (Note see: Condition 8-12 of Approval Notice on performance requirements)

A Water Quality Management is to be prepared and implemented during construction works to ensure suspended sediment and turbidity remain within:

- Default Guideline Values (DGVs) for Aquatic Ecosystems of the Mersey Catchment, Environment Protection Authority (EPA 2021a);
- Default Guideline Values (DGVs) for Aquatic Ecosystems of the Rubicon Catchment, Environment Protection Authority (EPA 2021b); and
- ANZECC guidelines for water quality (ANZECC, 2000).

Appropriate monitoring sites are to be selected as follows:

- Upstream:
 - Located upstream of all watercourses crossing works and potential sedimentation inputs from the site
 - Downstream of any confluences with significant creeks, streams or rivers
-

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Environmental Advisor

-
- Not to be undertaken less than 10m or further than 200 m upstream from the site.
 - Downstream:
 - Located downstream of all construction sediment inputs (from both point and diffuse sources)
 - Upstream of any confluences with significant creeks, streams or rivers
 - Not be undertaken less than 20m or further than 100 m downstream of the construction site.

Monitoring to be undertaken by a suitably qualified person and is to be conducted in accordance with the following:

- Upstream and downstream readings taken immediately prior to construction commencing.
- Minimum three upstream and downstream readings taken daily once construction has commenced:
 - Prior to the commencement of daily works
 - During daily works
 - At the completion of daily works
 - At any other time that there is a visible change in turbidity downstream resultant from site activities.
- All water quality readings to be checked against the SWISA Turbidity Management Framework and actions taken as necessary. Where parameters exceed those specified in the Water Quality Management Plan or CEMP, works must immediately be ceased, and appropriate remedial action taken until parameters meet the SWISA Turbidity Management Framework and EPBC permit requirements.

A sediment curtain is installed downstream of the works to reduce the impacts of sediment disturbance.

Sediment traps, bags, or basins are used during dewatering or where otherwise necessary to mitigate discharge of highly turbid water back to the waterway.

EPR 1E – Den management (Tasmanian devil, spotted quoll, eastern quoll)

EPR	Mitigation measure	Accountability
1E.1	Site inductions will include information on den identification and steps that need to be followed if an unanticipated den discovery occurs during construction works. Additional training will be provided by a suitably qualified ecologist for personnel undertaking unsuitable denning habitat surveys.	Contractor's Project Environmental Advisor / TI's Suitably qualified ecologist
1E.2	Pre-clearance surveys will be undertaken approximately two weeks prior to any clearing and all construction works. Pre-clearance surveys within areas of optimal and sub-optimal habitat (as shown on CEPs) must be surveyed by a suitably qualified ecologist . Pre-clearance surveys within areas of unsuitable denning habitat may be undertaken by construction personnel who have received supervisory-level den identification training in accordance with EPR 1E.1 .	Contractor / Contractor's Project Environmental Advisor / TI's Suitably qualified ecologist
1E.3	Potential den sites identified during pre-clearance surveys or an unanticipated discovery must be entered as a den point in GIS. The Contractor must immediately establish a 50m exclusion zones around potential dens using flagging and exclusion zone signage. Exclusion zones may be established at start and end points within the construction corridor provided the exclusion zone stops personnel and vehicles from entering the minimum 50m buffer. A suitably qualified ecologist must undertake an assessment of all potential dens and update the GIS den point accordingly. Any dens that are considered to be potentially active will be subject to a den monitoring assessment (see EPR 1E.6). Den exclusion zones cannot be removed under any circumstances without approval from TI or TI's suitably qualified ecologist .	Contractor / TI's Suitably qualified ecologist / TI
1E.4	Den sites within the construction corridor that are confirmed by a suitably qualified ecologist to be definitively inactive and vacant can be decommissioned by a suitably qualified ecologist provided it is done in accordance with a current Permit to Take a Product of Wildlife under the <i>Nature Conservation Act 2002</i> (Tas).	TI's Suitably qualified ecologist
1E.5	Den sites outside of the construction corridor that are confirmed by a suitably qualified ecologist to be definitively inactive and vacant will not be decommissioned however if the ecologist determines that the den extends below ground into the construction corridor , a one-way gate may be installed to prevent potential occupancy during construction. TI's suitably qualified ecologist is responsible for removing the one-way gate once the potential den is no longer at risk of impact.	Contractor / TI's Suitably qualified ecologist / TI
1E.6	A den monitoring assessment will be completed for all potentially active dens as follows: - At least two infra-red motion sensor cameras will be installed at each entrance of each burrow for a minimum of seven nights. Camera settings will be as follows; sensitivity: high, capture method: video, capture length: >20 seconds, capture delay interval: 0 seconds. - Footage will be inspected by a Suitably qualified ecologist, and the den classified as follows:	TI's suitably qualified ecologist

EPR	Mitigation measure	Accountability
	○ Likely maternal devil/quoll den (see EPR 1E.7) – where a pouch-laden devil or quoll, an imp (juvenile devil), kitten (juvenile quoll), or devil or quoll displaying natal characteristics for two or more nights is recorded, or where a devil or quoll is recorded using a den regularly (i.e. almost every night). ○ Devil/quoll den (non-maternal) (see EPR 1.8 and EPR 1.9) –where a devil or quoll is recorded using a den regularly (i.e. almost every night) but further monitoring confirms it is not a maternal den. ○ Non devil/quoll den (see EPR 1.8 and EPR 1.9) – where another species is recorded using the den either regularly or opportunistically.	
1E.7	<u>Likely maternal devil/quoll den</u> If camera monitoring shows that a den is likely maternal devil/quoll den or the den is being used regularly by devils or quolls the 50 m exclusion zone must remain in place until a suitably qualified ecologist has confirmed that there is no current natal activity (i.e. the den is not occupied by a breeding female and is not necessary for the rearing of young) and the den can be classified as a non-maternal den (see EPR 1E.8 and EPR 1E.9).	TI's suitably qualified ecologist
1E.8	<u>Active dens INSIDE the construction corridor and NOT a maternal devil/quoll den</u> Active dens that are inside the construction corridor and not a maternal devil or quoll den must be subject to continued monitoring (with or without a one-way gate). The 50 m exclusion zone must apply until the den is conclusively vacant and can be decommissioned by TI's suitably qualified ecologist under a current Permit to Take a Product of Wildlife under the <i>Nature Conservation Act 2002</i> (Tas). Exclusion zones can only be removed under authorisation from TI or TI's suitably qualified ecologist. All permit conditions must be complied with. Any discrepancy between the EPRs and the permit conditions must involve resolution with TI and relevant regulator.	TI's suitably qualified ecologist
1E.9	<u>Active dens OUTSIDE of construction corridor and NOT a maternal devil/quoll den</u> Active dens that are outside the construction corridor will not be decommissioned. If there is potential for a den located outside of the construction corridor to extend below ground into the construction corridor, the den will be subject to continued monitoring and a one-way gate installed until the den is conclusively vacant (note: consultation with NRE Tasmania may be required). TI's suitably qualified ecologist is responsible for removing the one-way gate once a den is no longer at risk of impact. Active dens that are not maternal devil or quoll dens and are within 10m of the construction corridor will have a minimum 5m exclusion zone to alert personnel of active den locations.	TI's suitably qualified ecologist
1E.10	The results of den pre-clearance surveys must be captured in a den survey checklist (to be provided by TI). All dens must be entered in the den point layer in GIS by the person undertaking the pre-clearance survey and updated by the suitably qualified ecologist. The Contractor is responsible for completing all sections of the den survey checklist relating to unsuitable denning habitat surveys (i.e. chainages they are responsible for completing). The Contractor must notify TI after completing unsuitable denning habitat surveys so TI's suitably qualified ecologist can assess	Contractor / Contractor's Project Environmental Advisor / TI's Suitably qualified ecologist / TI's project representative

EPR	Mitigation measure	Accountability
	dens identified during surveys. Den survey checklists must be referenced in the site walkover sign off form which will be undertaken prior to works commencing. Site walkovers must include a Contractor supervisor, TI project representative and environmental representative (either from TI or the Contractor). Den resurveys are required after 8 weeks if construction has not commenced in surveyed areas.	
1E.11	In the event an unanticipated potential den site is identified during construction, the Contractor must immediately establish a 50 m exclusion zone around the potential den and enter the den point in GIS. The Contractor must subsequently notify TI who will arrange a suitably qualified ecologist to undertake a den activity assessment in accordance with EPR 1E .	Contractor / TI's Suitably qualified ecologist / TI
	See also	
1.6	Vegetation clearance must be minimised as much as possible within the construction corridor . Blanket clearing of vegetation within the construction corridor is not permitted.	Contractor
	EPR 13 – Rehabilitation and reinstatement.	

EPR 1F – Tasmanian devil management – [REDACTED]

EPR	Mitigation measure	Accountability
1F.1	Noise generating work and activities at [REDACTED] that exceed background noise levels at nearby dens (36dBA at [REDACTED]) must only be undertaken outside the devil management constraint period and in accordance with EPR 1F.4, 1F.5 and 1F.7. These works include (but are not limited to) to the following: [REDACTED] [REDACTED] [REDACTED] [REDACTED] • Vehicle access to site (trucks, heavy machinery) • Any other noise generating activities which are likely to exceed 36dBA at nearby dens.	Contractor
1F.2	Noise generating work and activities for the pipeline and drainage [REDACTED] that exceed background noise levels at nearby dens (36dBA at [REDACTED]) must only be undertaken outside the devil management constraint period and in accordance with EPR 1F.4, 1F.6 and 1F.7. These works include (but are not limited to) to the following: • Pipeline trench excavation (use of excavator with bucket, ripping rock breaker attachments). • Pipeline installation (use of excavators, trucks, concrete pump, hand tools). • Drainage installation (use of excavators with bucket, ripping and rock breaker attachments, trucks). • Vehicle access to site (trucks, heavy machinery). • Any other noise generating activities which are likely to exceed 36dBA at nearby dens.	Contractor
1F.3	Work and activities at [REDACTED] that are below background noise levels at nearby dens (36dBA [REDACTED]) may be undertaken within the devil management constraint period. These works may include the following: • [REDACTED] minor power tool works, pressure cleaning and regrouting (no external walls allowed at any time). • Light vehicle access to the site. • Heavy vehicle movements limited to 2 movements per week.	Contractor

EPR	Mitigation measure	Accountability
	No vehicular access is allowed between dusk and dawn and in accordance with EPR 1F.9. If access is required between dusk and dawn, access must be via foot only from [REDACTED].	
1F.4	Before commencement of any work or activity associated with both the [REDACTED] a temporary sound attenuation curtaining must be installed in front of [REDACTED] to reduce noise levels at dens. The sound attenuation curtaining must: • Not interfere with the access to the den sites or utilisation of the area by devils • Be installed under direction by a Suitably Qualified Ecologist and Acoustic Specialist • Be installed and decommissioned outside of the devil management constraint period • Not result in the removal of any vegetation and minimise disturbance to soil as much as practicable; and • Remain in place until completion of all works that are likely to have a noise impact on denning habitat and as confirmed by an Acoustic Specialist and Suitably Qualified Ecologist.	Contractor / TI's Acoustic Specialist / TI's suitably qualified ecologist
1F.5	Before commencement of any noise generating work or activities associated with [REDACTED], install sound attenuation curtaining or other noise mitigating devices which are suitable for the task or activity. Noise mitigation approaches must: • Be developed in consultation with an Acoustic Specialist and suitable for the noise generating task or activity to be undertaken; • Be used at all times; and • Remain in place until completion of all noise generating tasks or activities.	Contractor / TI's Acoustic Specialist
1F.6	To mitigate noise and vibration from work or activity associated with the pipeline and drainage [REDACTED] the following noise and vibration mitigation measures must be undertaken: • Minimise the use of equipment with the potential to generate high amplitude ground vibration (such as rock breakers); • Undertake any work during daylight hours only; • Install temporary sound attenuation curtaining in close proximity to rock breaking activities and power tool usage; and • Utilise a noise control shroud on rock breaker head.	Contractor / TI's Acoustic Specialist
1F.7	Noise generating work and activities [REDACTED] that exceed background noise levels at nearby dens (36dBA [REDACTED] outside of the devil management constraint	TI' s Suitably Qualified Ecologist / TI's Acoustic Specialist / TI

EPR	Mitigation measure	Accountability
	period must only be undertaken in accordance with the following monitoring requirements carried out by a Suitably Qualified Ecologist and Acoustic Specialist:	
	<u>Camera Monitoring</u>	
	• Install cameras outside [REDACTED] prior to installation of sound attenuation curtaining to record direction of access to the mine used by devils so access is not impeded. ○ Monitor behaviour for minimum period of 1 week before barrier erected to determine access route into mines ○ Monitor for minimum period of 1 week after barrier is installed to assess any changes in behaviour. If behaviour changes recorded and they persist after a week adjust location/construction of the sound attenuation curtaining and undertake further monitoring before commencing works • Install cameras facing [REDACTED] to monitor comings and goings of devils during works period. • Install camera 3m (max.) [REDACTED] to monitor any behavioural changes and to monitor when maternal denning behaviour commences. • Photograph [REDACTED] to within 3 m internally before works. ○ Monitor condition of entrances and roofs on daily basis if vibration equipment used on site (such as rock breaking machinery) • Cameras to be checked twice weekly by Suitably Qualified Ecologist using wireless links to minimise visitation to the den sites • Camera batteries will need to be replaced on a 2-3 week cycle.	
	<u>Noise and Vibration Monitoring -</u>	
	• Install noise receivers [REDACTED] to provide ongoing monitoring of noise levels during all work periods. ○ Noise receivers to be checked twice weekly using wireless links and is to coincide with camera checking to minimise visitation to the den sites • Measure ground vibration using a geophone if rock breaker used for pipeline and drainage work ○ Place monitors [REDACTED] during rock breaking and monitor levels in real time. Geophone to be installed with remote reader (on cord) to minimise visitation to den entrances.	

EPR	Mitigation measure	Accountability
	Visits to [REDACTED] to set up and take down monitoring equipment, change batteries and download data are to be coordinated between the Suitably Qualified Ecologist and Acoustic Specialist to minimise visitation to [REDACTED] If any behavioural changes are identified during the monitoring period TI will issue an immediate stop work notice and review safeguards and mitigation measures. TI will only approve recommencement of works if a significant impact will not occur on the species.	
1F.8	To minimise human disturbance to [REDACTED] only a Suitably Qualified Ecologist and Acoustic Specialist will be allowed to visit these sites, only as required, to undertake the following activities: • Installing and checking cameras • Installing and checking noise receivers • Installing and checking geophone vibration monitors • Photographing and monitoring [REDACTED] conditions Cameras, noise receivers and geophone to be checked using wireless links to minimise visitation to the den sites.	TI's Suitably Qualified Ecologist / TI's Acoustic Specialist
1F.9	To mitigate any roadkill or injury to dasyurids [REDACTED] the following mitigation measures must be undertaken: ○ Access [REDACTED] outside work hours to ensure no vehicular access between dusk and dawn. ○ Max speed limit of 20km/h on all vehicles [REDACTED]. Appropriate signage erected that the 20 km/h relates to wildlife collision risk. Enforced with zero tolerance approach to workers exceeding this speed limit. ○ The Contractor must arrange basic training sessions for select personnel which addresses how to safely rescue injured devils or other animals and assist with transferring animals to a suitably qualified wildlife carer. Training must be delivered by Bonorong or a provider recommended by Bonorong. ○ Where a threat to devils is identified during construction, works associated with the threat must cease, and the Contractor must immediately notify TI. Bonorong (0447 ANIMAL) and/or NRE Tas must be contacted for advice before works can recommence.	Contractor's Environmental Advisor/ TI project representative / Suitably qualified wildlife carer
See also EPR 1E		

EPR 1G – Hollow-bearing tree management (masked owl, swift parrot, blue-winged parrot)

EPR	Mitigation measure	Accountability
1G.1	All potential hollow-bearing trees and forest habitat areas within 150 m of the construction corridor , must be assessed by a suitably qualified ecologist during the spring immediately preceding construction to confirm nesting (hollows) habitat values for masked owl. Any trees with potential masked owl nesting hollows will be subject to monitoring to determine masked owl usage (see EPR G1.5).	Contractor / TI's suitably qualified ecologist
1G.2	All potential hollow-bearing trees and forest habitat areas within 15 m of the construction corridor , must be assessed by a suitably qualified ecologist during the spring immediately preceding construction to confirm nesting (hollows) and foraging habitat values for swift parrot and blue-winged parrot. Any trees with potential nesting hollows will be subject to monitoring to determine swift parrot or blue-winged parrot usage (see EPR 1G.7).	TI's Suitably qualified ecologist
1G.3	A 15 m exclusion zone (or tree protection zone (TPZ) determined by a suitably qualified arborist) will be established surrounding trees confirmed to contain habitat values for the Tasmanian masked owl, swift parrot or blue-winged parrot within 15 m of the construction corridor.	Contractor's Project Environmental Advisor / TI's suitably qualified arborist / TI's suitably qualified ecologist
1G.4	Where possible, the construction corridor will be micro-sited to avoid impacts to hollow-bearing trees or forest habitat areas. Priority will be given to avoiding trees determined to be used for past or current breeding activity by masked owl, swift parrot, or blue-winged parrot (see EPR 1G.8).	Contractor / Contractor's Project Environmental Advisor
1G.5	If the construction corridor will encroach on the 15 m exclusion zone (or tree protection zone identified by a suitably qualified arborist) of a hollow-bearing tree by 10% or more, an arboriculture assessment will be undertaken in accordance with the Australian Standard Protection of Trees on Development Sites (AS 4970-2009) to determine if the tree is viable for retention. For trees that can be retained, an appropriate exclusion zone will be implemented by the arborist.	Contractor / Contractor's Project Environmental Advisor / TI's suitably qualified arborist
1G.6	<u>Passive acoustic monitoring – masked owl</u> All Hollow-bearing tree(s) that are confirmed to contain habitat values for the masked owl will be subject to passive acoustic monitoring (PAM), as follows: A suitably qualified ecologist will set up a PAM device within 200 m of the hollow-bearing tree(s) (One PAM device will cover all trees within 200 m).	Contractor / TI's suitably qualified ecologist

EPR	Mitigation measure	Accountability
	- Monitoring must be undertaken twice, once in spring and once in summer immediately preceding construction, for a minimum of three weeks each. - The PAM devices must record for the duration of the night. - Analysis of PAM data must be undertaken by a suitably qualified bioacoustics analyst to determine the presence of masked owls within the monitoring area. If masked owls are detected, passive visual monitoring is required for each hollow-bearing tree within 200 m (see EPR G1.6).	
1G.7	<u>Passive visual monitoring – masked owl</u> Hollow-bearing trees that are confirmed to contain habitat values for the masked owl and potentially being utilised by owls (following PAM undertaken per EPR 1G.5), will be subject to passive visual monitoring. A suitably qualified ecologist will undertake monitoring twice a day, for one hour before dawn and one hour after dusk, for a minimum of five consecutive days during the spring breeding season. If masked owl activity is recorded, the ecologist will assess the likelihood of breeding activity (current or past) (see EPR 1G.8). If no breeding activity is suspected, active visual monitoring and hollow decommissioning will be undertaken (see EPR 1G.9).	TI's Suitably qualified ecologist
1G.8	<u>Passive visual monitoring – swift parrot and blue-winged parrot</u> Hollow-bearing trees that cannot be retained and are confirmed to contain habitat values for the swift parrot or blue-winged parrot, will be subject to passive visual monitoring, as follows: - A suitably qualified ecologist will undertake monitoring twice a day for a minimum of five consecutive days. - Monitoring must be undertaken for one hour after dawn and one hour before dusk. - Monitoring must be undertaken during spring immediately preceding construction. Where swift parrots or blue-winged parrots are not identified, a second visual observation must be undertaken by a suitably qualified ecologist within 2 hours post-dawn or 1 hour before dusk for minimum 1 hour, repeated over 5 consecutive days in the following summer If swift parrot or blue-winged parrot activity is recorded, the suitably qualified ecologist will assess the likelihood of breeding activity (current or past) (see EPR 1G.9). If no breeding activity is suspected, active visual monitoring and hollow decommissioning will be undertaken (see EPR 1G.10)	TI's Suitably qualified ecologist

EPR	Mitigation measure	Accountability
1G.9	<u>Breeding activity – masked owl, swift parrot and blue-winged parrots</u> If current or past masked owl, swift parrot and blue-winged parrot breeding activities are suspected following monitoring, a temporary 150 m exclusion zone (fenced) will apply until the ecologist has determined that breeding activities have concluded. Following conclusion of breeding activities, a 15 m exclusion zone (or tree protection zone identified by a Suitably qualified arborist) will apply to trees within 15m of the construction corridor and works may commence outside of this area. Advice from NRE Tas must be sought on whether a Permit to Take under the <i>Nature Conservation Act 2002</i> (Tas) can be granted to impact a tree with evidence of breeding activity for masked owls or swift parrots, or if realignment/re-design is required. If impact to a breeding tree is approved by the regulator, then hollow decommissioning will be undertaken (see EPR 1G.9).	Contractor / TI's suitably qualified ecologist / TI's suitably qualified arborist
1G.10	<u>Active visual monitoring and hollow decommissioning</u> Active visual monitoring and hollow decommissioning must be undertaken following passive monitoring (see EPR 1G.6 and EPR 1G.7), between 1 April and 31 July of the same year. Where hollows can be safely accessed, active visual monitoring will be undertaken by a suitably qualified ecologist as follows: • All viable hollows will be inspected for vertebrate fauna. • If the hollow contains evidence of masked owl, swift parrot, or blue-winged parrot breeding activity, active monitoring must cease and the requirements of EPR 1G.8 (breeding activity – masked owl, swift parrot and blue-winged parrots) followed. • If the hollow contains evidence of breeding activity of wildlife protected under the <i>Nature Conservation (Wildlife) Regulations 2021</i> (Tas) (other than the masked owl, swift parrot or blue-winged parrot), active monitoring must cease and the 15 m exclusion zone (or tree protection zone identified by a suitably qualified arborist) maintained until the ecologist has confirmed that breeding activities have concluded. • A valid Permit to Take under the <i>Nature Conservation Act 2002</i> (Tas) is required to remove the products of wildlife protected under the <i>Nature Conservation (Wildlife) Regulations 2021</i> (Tas). • If the hollow does not contain evidence of breeding activity, fauna may be flushed from the hollow through tapping the tree firmly with hand mallets, or by another method approved by regulator (DCCEEW). Alternatively passive visual monitoring (in accordance with EPR 1G.6) may be undertaken until the hollow is confirmed to be vacant.	Contractor / TI's Suitably qualified ecologist

EPR	Mitigation measure	Accountability
	- Where hollow vacancy is conclusive, the hollow may be decommissioned through covering entrance(s) with corflute (or equivalent material). If hollow vacancy is inconclusive, it may be decommissioned using a one-way flap device to allow wildlife to exit the hollow. - Once all viable hollows are confirmed as decommissioned by a suitably qualified ecologist, the tree can be approved for clearance by TI's project representative. Clearance of trees must be undertaken within the same non-breeding season (between 1 April and 31 July) as the hollows are decommissioned. Hollows that cannot safely be accessed for active monitoring must be confirmed to be vacant prior to clearance in accordance with EPR 1G.10.	
1G.11	<u>Confirmation of vacancy and clearance</u> If there is no safe access for active monitoring, hollow vacancy will be confirmed outside breeding season (between 1 April and 31 July) as follows: Passive monitoring will continue twice a day for an hour (in accordance with EPR 1G.6 and EPR 1G.7), for up to five consecutive days until vacancy can be confirmed. Once all viable hollows are determined by the ecologist to be vacant, the tree can be approved for clearance by the ecologist and must be cleared on the day of approval. Following clearance, all viable hollows must be inspected by the ecologist. In the event that injured fauna is present, a Bonorong (0447 264 625) must be contacted, and suitably qualified wildlife carer engaged. Any wildlife-related incidents must be reported to TI immediately. TI will notify the Conservation Assessment Branch of the NRE Tas And/or DCCEEW in accordance with relevant permit conditions.	Contractor / TI's suitably qualified ecologist / TI

EPR 1H – Roadkill management

EPR	Mitigation measure	Accountability
1H.1	Daylight hours and night-time hours must be assessed on a weekly basis (to allow for seasonal variation) and communicated to all construction personnel.	Contractor's Project Environmental Advisor
1H.2	Where Tasmanian devil or quoll roadkill mortalities are expected to increase by more than 10% (as determined by a traffic impact assessment and a roadkill assessment), speed limits for project vehicles travelling on all local roads and private roads must be set at a maximum of 80 km/hr during daylight hours and 60 km/hr during night-time, except where: - The existing signed speed limit (including for any temporary traffic management) is lower than these limits. - High devil or quoll activity has been identified (as shown on CEPs). Night-time speed limits for project vehicles on these roads will be limited to 20 km/h on private roads and 40 km/hr on public roads (see also EPR 1F.9). Speed limits must be signed using semi-permanent, project specific signage and enforced for all construction personnel, including any sub-contractors. Implementation of these limits is to be staged by construction phase (i.e. only applies in those periods when roadkill mortality is predicted to increase by 10% or more).	Contractor
1H.3	Advisory speed recommendations of 60 km/h during night-time hours must be in place for project vehicles travelling in or commuting to the Project Area using State roads other than the Bass Highway, Frankford Road, and Port Sorrel Road. All vehicles travelling on these roads must adhere to any night-time advisory signage.	Contractor
1H.4	Advisory signage (e.g. 'slow down dawn to dusk') will be installed where high devil or quoll activity has been identified (as shown on CEPs).	Contractor
1H.5	The use of heavy vehicles is restricted to daylight hours , except where night-time use is an essential traffic management measure, or daylight use is prevented due to extreme weather. In these circumstances, heavy rigid vehicles will have a maximum speed limit of 60 km/hr.	Contractor
1H.6	All project vehicles must be fitted with a passive high-frequency animal repellent device (which emits an ultra-sonic sound wave at speeds above 50 km/h). The installation and operation of these devices will be audited periodically.	Contractor
1H.7	No animals are to be deliberately killed with vehicles. Any animals that are inadvertently killed through vehicle strike must be immediately removed from the road (where safe to do so) to at least 20 m from the road edge or over the nearest fence line to reduce the likelihood of secondary kill. Killed marsupials must be checked for the presence of a joey, in accordance with the marsupial pouch checking guide (Animal Rescue Cooperative, ND). If animals are injured Bonorong (0447 ANIMAL) must be contacted immediately for advice. TI must be notified immediately of any roadkill that is a threatened species. The Contractor must undertake an incident investigation if a threatened	Contractor

EPR	Mitigation measure	Accountability
	species is killed by a project vehicle. TI will notify DCCEEW and NRE Tas of threatened species deaths caused by the project within one business day of becoming aware of the event and issue a report within 14 days of the notification.	
1H.8	Animals hit by project vehicles must be recorded in a project roadkill layer GIS, including species, condition, date, time, location coordinates, and any noteworthy circumstances (e.g. pouch young). Data will be managed as follows: - Records must be entered into the roadkill layer or reported to the Contractor's Project Environmental Advisor upon discovering the roadkill. Project personnel must report all threatened species to the Contractor's Environmental Advisor immediately. - The Contractor's Environmental Advisor must report all threatened species deaths immediately to TI, The Contractor will be required to undertake an incident investigation for threatened species hit by project vehicles - The Contractor's Project Environmental Advisor is responsible for maintaining the roadkill layer in AGOL to ensure records are accurate and up to date and details can be provided to NRE and TI as part of monthly reporting. - The Contractor's Project Environmental Advisor must submit roadkill records to NRE Tas on a monthly basis (either via the Tasmanian Roadkill Reporter app online at https://nre.tas.gov.au/wildlife-management/living-with-wildlife/tasmanian-wildlife-roadkill/report-a-roadkill-sighting or by emailing NRE Tas directly) TI will submit roadkill data to DCCEEW on completion of construction.	Contractor / Contractor's Project Environmental Advisor / TI
1H.9	Roadkill search and recording will be undertaken on a daily basis for those roads being actively used by project vehicles at that stage of construction (i.e. those where roadkill mortalities are expected to increase by more than 10%), including internal roads, private roads and the following local roads (depending on the stage of works): - Moriarty Road - Wesley Vale Road - Oppenheims Road - Hermitage Lane - Chapel Road - Woodbury Lane - Wrights Lane - Mills Road - Squeaking Point Road - Appleby Road	Contractor

EPR	Mitigation measure	Accountability
	• Cornelius Road • Churchills Road • Native Plains Road • Devils Road • Morris Road • Greens Creek Road State roads are not required to be monitored as they are included in the Department of State Growth's roadkill monitoring program. Killed or injured animals identified through monitoring must be dealt with in accordance with EPR 1H.7. Recording and reporting requirements under EPR 1H.8 apply.	
1H.10	Roadkill data collected by the project must be independently reviewed by a Suitably qualified ecologist at a minimum of every six months, to determine if further mitigation measures are required to reduce the frequency and quantity of roadkill. The Contractor must maintain roadkill data in the project's roadkill layer to ensure the suitably qualified ecologist can access accurate and up to date data at the time of the review.	TI's suitably qualified ecologist

EPR 1I – Threatened flora and vegetation communities

EPR	Mitigation measure	Accountability
11.1	A pre-clearance search for <i>C. caudata</i> and <i>C. tonellii</i> will be undertaken: - During the peak flowering period (late October to early December, noting that flowering times can be variable across the state and may vary between species). Peak flowering should be verified locally before undertaking pre-clearance search and surveys should be undertaken 5 days either side of peak flowering dates. - The pre-clearance search area is defined as all potential habitat within the construction corridor (as shown on the CEPs) plus a 20 m buffer of the construction corridor. - The whole pre-clearance search area is to be surveyed by a minimum two people walking parallel adjacent transects 5 m apart. Transects are to be walked in both directions and if an occurrence is found, the immediate surrounds will be thoroughly searched. - Personnel will include a minimum of one suitable qualified orchid expert and the remainder will be suitably qualified ecologists.	TI's suitably qualified ecologist .
11.2	The Contractor must establish a 10 m exclusion zone (flagged) around any occurrences <i>Caladenia caudata</i> (tailed spider orchid) known or identified within 50 m of the construction corridor .	Contractor's Project Environmental Advisor / TI's suitably qualified ecologist .
11.3	Known populations of <i>Caladenia tonellii</i> (robust fingers) must be buffered by a minimum of 50 m and be clearly demarcated on construction plans and on the ground to avoid any impacts to this population. Exclusion zones must be implemented by the Contractor at the same time as pre-clearance surveys to ensure the exclusion zone adequately manages the extent of the population identified during surveys.	Contractor's Project Environmental Advisor / TI's suitably qualified ecologist .
11.4	The construction corridor must be fenced by the Contractor when passing areas with known occurrences of <i>Caladenia</i> sp. to prevent impacts to <i>Caladenia tonellii</i> (robust fingers) and <i>Caladenia caudata</i> (tailed spider orchid). Fencing must be sufficient to prevent vehicle access to areas outside the construction corridor but not to limit wildlife movement.	Contractor's Project Environmental Advisor / TI's suitably qualified ecologist .
11.5	If impacts to <i>Caladenia</i> sp. cannot be avoided, TI must consult DCCEEW . No impacts to <i>Caladenia caudata</i> (tailed spider orchid) or <i>Caladenia tonellii</i> (robust fingers) are permitted, except in accordance with advice from DCCEEW and a valid permit to take under the <i>Threatened Species Protection Act 1995</i> (Tas).	Contractor's Project Environmental Advisor / TI
11.6	No impacts to <i>Persicaria decipiens</i> (slender waterpepper) are permitted, unless undertaken in accordance with a valid 'Permit to Take' under the <i>Threatened Species Protection Act 1995</i> (Tas). All impacted occurrences of this	Contractor's Project Environmental Advisor / TI

EPR	Mitigation measure	Accountability
	species must be rehabilitated with tube stock of <i>Persicaria decipiens</i> (slender waterpepper) from locally sourced seed to offset the impact to this species. Required permits will be obtained by TI.	
11.7	The construction corridor must be clearly demarcated by the Contractor and reduced as much as possible in areas mapped as containing <i>Persicaria decipiens</i> (slender waterpepper) (as shown on CEPs).	Contractor
11.8	In areas within 30 m of patches of the Tasmanian Forests and Woodland Dominated by Black Gum (<i>Eucalyptus ovata</i>) or Brookers Gum (<i>Eucalyptus brookeriana</i>) (as shown on CEPs), the construction corridor must be reduced to the minimum width (6 m) width. No clearance of this Threatened Ecological Community can occur. The extent of any other clearance required must be clearly delineated on any plans and on the ground, with works, vehicles, and materials excluded from any area not contained within the works area. Where the reduced corridor still encroaches within 30m of the Threatened Ecological Community, a suitably qualified arborist will be consulted to assess root structural and integrity impacts prior to any clearance or excavation.	Contractor / TI's suitably qualified arborist
	See also	
1.4	Tree protection zones (TPZs) will be delineated by markers, construction tape webbing or other barriers by the Contractor under supervision of the Contractor's Project Environmental Advisor. Equipment, plant, vehicles, or material must not be stored within the TPZ. Where a full TPZ cannot be maintained, a suitably qualified arborist will be consulted to assess viability of keeping the tree. In assessing the viability, the <u>suitably qualified arborist will:</u> • Prepare an assessment report of the tree/s to be impacted; • Supervise and document all works carried out within the TPZ of retained trees; and • Conduct post-construction inspection of trees to determine whether incursion will lead to loss. Impacted trees are to be retained to the maximum extent possible to preserve the nesting value for relevant species.	Contractor / Contractor's Project Environmental Advisor / TI's suitably qualified arborist
13.13	Rehabilitation near occurrences of <i>Caladenia</i> sp. Facilitated natural regeneration of any disturbed area within 50 m of optimal <i>C. tonellii</i> habitat must allow threatened orchid species every opportunity to utilise the disturbed open ground. If natural regeneration is at odds with rehabilitation plans required for other purposes, then it is recommended that in consultation with the suitably qualified ecologist, planting density of shrubs, rushes, and sedges is minimal within areas immediately adjacent to optimal habitat (the area equivalent to the pre-clearance search area).	Contractor / TI's suitably qualified ecologist

EPR 2 – Weeds, pests, and disease

EPR	Mitigation measure	Accountability
2.1	A Weed and Disease Management Plan (WDMP) must be prepared by the Contractor, in accordance with the Weed and Disease Planning and Hygiene Guidelines (DPIPWE, 2015), Keeping it clean - A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens (NRM South, 2010), and Hygiene protocols for the control of diseases in Australian frogs (Murray, et al., 2011). The WDMP must incorporate specific requirements for working within the Warrawee Conservation Area, and specific landowner requirements. The WDMP must be reviewed and approved by TI.	Contractor/TI
2.2	Weed control will be undertaken within the construction corridor in accordance with the Weed and Disease Management Plan (to be developed by the contractor prior to construction). Weed control will be staged by construction phase and undertaken prior to construction commencing and following completion of construction works. Chemical control will be undertaken by an operator who holds a current NRE Tas Commercial Operators Licence and NRE Tas Certificate of Competency. Consultation with the relevant landowner will be undertaken prior to chemical weed control.	Contractor
2.3	Areas identified on the CEPs as known weed/pathogen infested/infected areas within the construction corridor will be marked on ground as management areas prior to commencement of construction, with the exception of areas of known potential habitat for BCF (as shown on CEPs).	Contractor
2.4	All construction vehicles, machinery, and equipment will be cleaned in accordance with the Tasmanian Washdown Guidelines for Weed and Disease Control (DPIPWE, 2004) or alternative best practice at least as effective as the Guidelines. Washdown will be undertaken: • Prior to equipment/machinery arriving on site. • After operating within an infested/infected area, or after transporting weeds or soil known to be infected with a weed seed or plant pathogen. • Prior to moving equipment/machinery between properties which fall within different freshwater sub-catchments (as defined by the Conservation of Freshwater Ecosystem Values (CFEV) Sub-Catchments layer on LISTMap), or when required by Landowner Access Agreements (LAAs). When entering or leaving an area of GGF habitat or dispersal route (see EPR 1C). The location of washdown points will be identified in the WDMP (see EPR 2.1), with at least one point defined per sub-catchment. Washdown points will include effective effluent management systems as outlined in the Tasmanian Washdown Guidelines for Weed and Disease Control (DPIPWE, 2004). A vehicle/equipment wash-down register will be maintained by the Contractor for audit by TI.	Contractor/TI

EPR	Mitigation measure	Accountability
2.5	The site induction for construction personnel will include communication of the WDMP (see EPR 2.1) and training on hygiene protocols, exclusion areas, and washdown procedures.	Contractor's Project Environmental Advisor / TI
2.6	All project personnel will clean their boots prior to arriving on site after working within an infested/infected area, prior to moving equipment/machinery between properties as required by LAAs, when entering and leaving an area of GGF habitat or dispersal route, and prior to working within streamside reserves or in proximity to waterways. Portable wash baths for washing boots will be used throughout the construction corridor . Hands, arms, knees, etc. should also be cleaned to remove debris and washed or wiped with a suitable disinfectant prior to and after working in an area of GGF habitat or dispersal route. It is preferable to do this before entering the vehicle or moving to another site.	Contractor
2.7	Only biocides endorsed by the Australian Pesticides and Veterinary Medicines Authority will be used. There will be no spraying within 5 m of aquatic habitat or remnant native vegetation areas. Application of herbicides will be in accordance with the Guidelines for Safe and Effective Herbicide Use Near Waterways (DPIPWE, 2012). Removal of weeds within areas mapped as GGF habitat or dispersal routes must be through using manual methods. No use of biocides within areas mapped as GGF habitat or dispersal routes is permitted.	Contractor
2.8	Only access tracks/roads approved by the TI's project representative shall be used when accessing the construction corridor .	Contractor/ TI's project representative

EPR 3 – Watercourses

EPR	Mitigation measure	Accountability
3.1	Trench excavation will be used for all watercourse crossings, except where a suitably qualified aquatic fauna expert has determined there will be a significant impact on MNES , or HDD is impractical, Pipeline watercourse crossings that will be installed via HDD are identified on the CEPs . Methods for HDD and trenching are described in EPRs 3.14 and 3.15.	Contractor/TI's project representative / TI's suitably qualified aquatic fauna expert
3.2	The alignment of access tracks will avoid crossing watercourses where practical. Where it is necessary for access tracks to cross a watercourse, existing structures will be used (where available), or a temporary crossing for access will be constructed. The location of temporary crossings required for access is to be determined in consultation with the TI's project representative.	Contractor/TI's project representative
3.3	The installation of temporary access crossings must minimise disturbance and allow for the flow of water through the crossing (e.g. through culverts). Following completion of construction, all temporary access crossings will be removed and disturbed areas rehabilitated.	Contractor
3.4	Machinery activity in watercourses is to be minimised at all times. Machinery, equipment and vehicles will be regularly maintained to prevent leaks of hazardous substances, such as fuel and hydraulic fluid. Machinery not in operation must not be stored in watercourses. Other equipment, such as generators and pumps, must be banded in accordance with the Bunding and Spill Management Guidelines (EPA Tasmania, 2015)).	Contractor
3.5	All materials required for pipeline watercourse crossings will be scheduled to be delivered to site so as to minimise the period of time the watercourse is disturbed.	Contractor
3.6	Where pipeline watercourse crossings are to be installed via HDD , no trenching is to occur within 2m of the bank of the watercourse.	Contractor
3.7	Where excavation in a watercourse cannot be completed in a single shift, and flow cannot be pumped around the work area with a portable pump, the flow will be diverted around the excavation site and then re-inserted back into the main flow of the watercourse downstream - typically the deepest part carrying the bulk of the current. Watercourse diversion will be achieved by constructing a cofferdam, berm or temporary channel. A cofferdam will be constructed using sandbags, clean rock, steel sheeting, inflatable dams (e.g. AquadamTM) or other non-erodible material. Clean rock is rock of varying type and size that contains no fines, soil, wastes or contaminants. The temporary diversion channels will be protected by lining them with non-erodible materials to the bank.	Contractor
3.8	All works in waterways must be managed and monitored to avoid impacts on aquatic fauna.	Contractor

EPR	Mitigation measure	Accountability
3.9	If excavation in a watercourse is unavoidable, excavated material will be stockpiled and in-filled in the same order as excavation. Contours in reinstated areas must be consistent with the pre-construction conditions and surrounding landform.	Contractor
3.10	A suitably qualified ecologist must be consulted prior to conducting watercourse crossings through known potential habitat (as identified on the CEPs). Existing woody debris and other in-stream substrate will be left in place where practical. If works require this material to be removed from the stream, this will only be a temporary removal, and any debris (large logs or stumps) will be returned to the stream post-construction for aquatic fauna and flora habitat and natural stream function. These must be signposted by the Contractor to indicate where they need to return to.	Contractor / TI's suitably qualified aquatic fauna expert
3.11	Aquatic spill kits must be available for all works within, or near watercourses.	Contractor
3.12	Silt curtains must be used in waterways around activities that present a risk of sediment disturbance or sedimentation.	Contractor
3.13	Horizontal Directional Drilling procedure - Pipelines must be installed an appropriate depth below the stream bed to prevent exposure of the pipe in the future as the streambed erodes. The highest point of pipe or casement must be at least 1m below bed level. - Where vehicle or machinery access across the waterway is required, it should be ensured that excessive disturbance of the stream bed and banks do not result from activities. - Any disturbance should not cause erosion or suspension of sediment (see EPR 4). - No temporary structures are to be erected within the waterway that may constitute a barrier to fish passage for more than 24hrs.	Contractor
3.14	Trenching procedure - Pipelines must be installed an appropriate depth below the stream bed to prevent exposure of the pipe in the future as the streambed erodes. This may require that where the streambed is found to be constituted by erosive material, a greater depth is necessary. The highest point of pipe or casement must be at least 1m below bed level. - Where vehicle or machinery access across the waterway is required, it should be ensured that excessive disturbance of the stream bed and banks do not result from activities. - Installation of pipelines through waterways with Australian Grayling present only occurs during low flow conditions between the months of January to April.	Contractor

EPR	Mitigation measure	Accountability
	• Bed composition and profile must be returned to pre-works conditions. • Any scour protection installed in the bed of a waterway must be installed at a minimum of 30cm below bed-level and covered with bed material that is naturally present within the same waterway. • Any engineered erosion control materials such as geotextile products are installed so that they will not be exposed to or enter the waterway under extreme weather conditions or over time as a result of erosion. • Backfill material used within the bed and banks of a waterway must: ○ be obtained locally and replicate material existing within the waterway. ○ be free of contamination including but not limited to acid sulphate soils, heavy metals, hydrocarbons. • Where riparian vegetation is removed or disturbed, revegetation is conducted within 6 months of completion of works. • Where trenching occurs in perennial waterways, or during any flow conditions other than cease to flow, the below requirements must be met: ○ Temporary diversion, damning or obstruction of water flows must not exceed 7 days. ○ Any temporary coffer dams constructed in the waterway must use material that is free from contamination as described above. ○ All coffer dam material must be removed from the waterway following construction except where it meets the criteria for appropriate back-fill material as described above and does not alter the profile of the waterway.	
3.15	Water crossing monitoring All water crossings are to be inspected by TI 12 months, and within 24 months of completion of works during low-flow conditions to ensure that: • Revegetation is likely to be successful • No significant erosion of the bed and banks is occurring because of the works • No infrastructure installed under or adjacent to the waterway has been exposed because of erosion. Where works have resulted in a change to hydrology, TI will engage a suitably qualified aquatic fauna expert and remedial works conducted (if appropriate) to ensure no ecological impacts that may impact Australian Grayling occur. See also: EPR 13 – Rehabilitation and reinstatement.	TI / TI's suitably qualified aquatic fauna expert

EPR 4 – Sediment and erosion

EPR	Mitigation measure	Accountability
4.1	Erosion and Sediment Control Plan An Erosion and Sediment Control Plan (ESCP) must be prepared by the Contractor, in accordance with Erosion and Sediment Control – the fundamentals for development in Tasmania (TEER, 2023). TI's project representative will be responsible for reviewing and approving the ESCP. Due to the physical and temporal scale of the project, ESCP may be written and implemented in stages as appropriate (to be determined based on the construction schedule and in consultation with the TI's project representative). In accordance with Erosion and Sediment Control – the fundamentals for development in Tasmania (July 2023), the ESCP must contain the following: • Site plan(s), including plan name, document version, date and author, and stage (if part of a series of staged ESCPs). Site plans must have a north point, scale, all property boundaries, and contours. • General soil description • Site layout, including location and approximate volume of soil disturbance, and stockpile locations. • Watercourses • Existing stormwater infrastructure • Location and details (dimensions, lining, and/or velocity control) of all proposed temporary drainage controls (including diversion drains and internal drains directing 'clean' runoff to a level spreader) • location and details of all proposed erosion controls, including location of vegetation to be retained, with exclusion zones clearly marked • location of sediment controls (including the location and design of stabilised site access points) • location of wash-out area and associated controls for potentially polluting activities and machinery cleaning • a statement of who is responsible for establishing and maintaining all controls (including contact details) • the installation sequence for different controls • the maintenance program for controls	Contractor / TI 's project representative
4.2	Water Quality Management Plan A Water Quality Management is to be prepared and implemented during construction works to ensure suspended sediment and turbidity remain within Default Guideline Values for Aquatic Ecosystems of the Mersey Catchment (EPA, 2021) and the ANZECC guidelines for water quality (ANZECC, 2000).	Contractor's Project Environmental Advisor

EPR	Mitigation measure	Accountability
	Appropriate monitoring sites are to be selected as follows: - Upstream: - Located upstream of all watercourses crossing works and potential sedimentation inputs from the site - Downstream of any confluences with significant creeks, streams or rivers - Not to be undertaken less than 10m or further than 200 m upstream from the site. - Downstream: - Located downstream of all construction sediment inputs (from both point and diffuse sources) - Upstream of any confluences with significant creeks, streams or rivers - Not be undertaken less than 20m or further than 100 m downstream of the construction site. Monitoring to be undertaken by a suitably qualified person and is to be conducted in accordance with the following: - Upstream and downstream readings taken immediately prior to construction commencing. - Minimum three upstream and downstream readings taken <u>daily</u> once construction has commenced: - Prior to the commencement of daily works - During daily works - At the completion of daily works - At any other time that there is a visible change in turbidity downstream resultant from site activities. - All water quality readings to be checked against the SWISA Turbidity Management Framework and actions taken as necessary. Where parameters exceed those specified in the Water Quality Management Plan or CEMP, works must immediately be ceased, and appropriate remedial action taken until parameters meet the SWISA Turbidity Management Framework and EPBC permit requirements. A sediment curtain is installed downstream of the works to reduce the impacts of sediment disturbance. Sediment traps, bags, or basins are used during dewatering or where otherwise necessary to mitigate discharge of highly turbid water back to the waterway.	
4.3	All construction personnel must undergo training on the function, installation, and maintenance of erosion and sediment controls. All construction personnel must read and understand their responsibilities under the respective sections of ESCP.	Contractor

EPR	Mitigation measure	Accountability
4.4	Erosion and sediment controls (including diversion drains) identified in the ESCP will be installed prior to any ground disturbance unless impractical (e.g. when mechanical installation means are required).	Contractor
4.5	Diversion drains will be installed in locations identified in the ESCP to divert clean run-off from disturbed areas within the site. All clean diverted water must be directed to a stable drainage area (via a level spreader). Diversion drains will be lined with appropriately selected and installed geotextile, matting, or rock, or rock check dams will be created to reduce velocity of run-off.	Contractor
4.6	Run-off that cannot be diverted from disturbed areas will be captured/treated through an appropriate sediment control, as identified in the ESCP .	Contractor
4.7	Sediment laden water captured on site will be preferentially re-used on site (e.g. for dust control)	Contractor
4.8	Scour protection will be installed in locations identified in the ESCP , where the pipeline is likely to be affected by erosion.	Contractor
4.9	Material will be stockpiled in locations identified in the ESCP , away from drainage lines, on flat or gently sloping land. Stockpiles will be built as low, flat-topped, elongated mounds, less than 2m high. A soil bank or berm will be installed on the upslope side of stockpiles to divert water flow. A sediment fence or berm will be installed 1–2m downslope of the stockpile. The ends of the sediment fence must 'return' upslope at either end to capture and allow ponding of localised runoff from the stockpile.	Contractor
4.10	Stockpiles will be assessed prior to high intensity forecasted rain and/or wind and secured and covered with fabric or plastic if there is a high risk of sediment loss that cannot be controlled by implementing additional sediment and erosion control structures	Contractor
4.11	Trenching works will be completed in manageable segments (maximum 500 m) that can be progressively completed and backfilled. Trenches will be backfilled with subsoil and compacted. Topsoil will be applied and mounded to allow for soil settling prior to revegetation.	Contractor
4.12	Stabilised site access points will be constructed in locations identified in the ESCP , with these locations to be used as the main points of access to the construction corridor .	Contractor
4.13	The area of soil disturbed and exposed to erosion will be minimised at all times through staging earthworks, minimising clearance, and undertaking progressive rehabilitation in accordance with a Reinstatement and Rehabilitation Plan (see EPR 13) approved by TI 's project representative. Erosion controls will be installed in areas of soil disturbance, as identified in the ESCP .	Contractor/ TI 's project representative

EPR	Mitigation measure	Accountability
4.14	Existing ground conditions and wet weather forecasts will be taken into consideration prior to undertaking earthworks. Ground disturbing works will be stopped during high-intensity rainfall or run-off events (until conditions have returned to normal).	Contractor
4.15	There is nil risk of dispersive/sodic soils in the construction project area according to the Tasmanian government LISTmap layer 'Soil Vulnerability – Sodicty Hazard'. If sodic soils are discovered, development should avoid if possible, and otherwise disturbance to topsoil and vegetation in these areas, including excavation and subsoil exposure.	Contractor
4.16	Erosion along backfilled trenches will be prevented by appropriate means such as trench blocks (i.e. trench/sack breakers) and compaction of backfilled soils.	Contractor
4.17	Erosion and sediment controls must be inspected during weekly environmental inspections and maintained to ensure the performance target is met. In addition, erosion and sediment controls must be inspected before, during, and after high-intensity rainfall or run-off events (if safe to do so).	Contractor
4.18	Disturbed areas will be shaped to suit the surrounding landform and minimise erosion. Site re-profiling must maintain soil stability and congruity with the surrounding landscape. A minimum 2 horizontal:1 vertical batter on side slopes is considered suitable to assist stabilisation. Excess rock or clean fill will be removed for beneficial reuse (in accordance with the EPA Tasmania AMM for the disposal of Clean Fill Type 1 and Type 2) or disposed of at an appropriately licenced facility (in accordance with <i>Environmental Management and Pollution Control (Waste Management) Regulations 2020</i> (Tas)). Disturbed areas will be rehabilitated in accordance with the EPR 13 – Rehabilitation and Reinstatement.	Contractor

EPR 5 – Noise and vibration

EPR	Mitigation measure	Accountability
5.1	Standard construction hours will be restricted to 7am-6pm Monday to Friday, 8am-6pm Saturday, and 10am-6pm Sundays and public holidays within the relevant municipality (per <i>Environmental Management and Pollution Control (Miscellaneous Noise) Regulations 2004</i> (Tas)), unless otherwise approved by the TI 's project representative.	Contractor/ TI 's project representative
5.2	All construction equipment, vehicles and plant will be regularly serviced and maintained according to the manufacturer's recommendations, or more frequently if required, to minimise noise generation. Construction equipment, vehicles and plant will be fitted with noise abatement devices (e.g. mufflers, engine covers). Where fitted, engine covers must remain closed when machinery is in use.	Contractor
5.3	High noise generating works (e.g. blasting) will be undertaken in accordance with project specific approvals within standard construction hours.	Contractor
5.4	Where intermittent high frequency noise poses a risk of disturbance, and pending safety requirements, the least noise-intrusive reversing alarms must be used.	Contractor
5.5	Temporary site access roads and site compounds will be sited as far away as practicable from noise sensitive premises .	Contractor
5.6	Noise generating equipment (e.g. generators) will be sited away from Noise sensitive premises and/or contained within noise enclosures.	Contractor
5.7	Construction equipment, vehicles and plant will be switched off or throttled down to a minimum when not in use.	Contractor
5.8	Additional site-specific measures, such as noise attenuation barriers, are to be implemented when noise levels at the nearest Noise sensitive premises is likely to exceed Background noise level (LA90,T) by more than 5 dB(A), or otherwise cause environmental nuisance .. Any noise monitoring undertaken must be in accordance with the Noise Measurement Procedures Manual (EPA Tasmania, 2008).	Contractor
5.9	If a noise complaint is received in relation to the activity, the complaint must be reported to TI within 24 hours.	Contractor

EPR 6 – Air quality and light

EPR	Mitigation measure	Accountability
6.1	All construction equipment, vehicles and plant will be regularly serviced and maintained according to the manufacturer's recommendations, or more frequently if required, to minimise emissions.	Contractor
6.2	Known sources of odour/emissions will be sited away from sensitive receptors, with consideration for prevailing wind conditions.	Contractor
6.3	Vehicle speed limits will be set for project roads (in accordance with EPR 1H - Roadkill management plan). Vehicle speed limits will be observed by all construction vehicles to minimise potential dust generation on unsealed roads.	Contractor
6.4	Access roads will be constructed out of appropriate materials to minimise dust generation.	Contractor
6.5	Spray carts and/or dust suppressants will be used on dust generating areas as required.	Contractor
6.7	Burning of any materials is prohibited on site, unless in accordance with an approved vegetation management plan.	Contractor
6.8	Loads must be covered where practicable when hauling dust-generating material to or from site.	Contractor
6.9	Light pollution must be minimised through: • Changing duration of lighting – switching off when not required • Reducing trespass of lighting - shielding / directing • Changing spectrum of lighting • Changing intensity of lighting	
6.10	If all available methods of dust stabilisation fail to suppress dust and it continues to result in unacceptable impacts, construction activities may need to be temporarily halted until dust generating conditions subside or are rectified.	Contractor
6.11	Works will be suspended during high-wind conditions (50 km/h and above) if the above measures are insufficient to protect ambient air quality from pollution.	Contractor

EPR 7 – Heritage

EPR	Mitigation measure	Accountability
7.1	Areas indicated on CEPs as exclusion zones will be clearly marked in the construction corridor prior to construction commencing. Exclusion zones will be verified on site by an archaeologist. Spatial data for the exclusion zones will be made available to the Contractor by TI . There will be no impacts inside an exclusion zone . Information on the locations of exclusion zones (including how they are marked) will be included in the site induction.	Contractor / TI / TI's Consulting Archaeologist
7.2	Where impacts to heritage items have been approved under a statutory approval, such as a permit or a works exemption, potential impacts will be mitigated in accordance with any applicable permit or exemption conditions.	Contractor
7.3	Site inductions will include information on Aboriginal heritage and historic heritage management and mitigation.	Contractor/ TI
7.4	In the event a potential heritage value is uncovered during construction, the relevant Unanticipated Discovery Plan will be followed for: - Aboriginal heritage (values other than skeletal material) - Historic heritage (heritage objects or features) - Skeletal material	Contractor
7.5	<u>Unanticipated Discovery Plan – Aboriginal heritage (values other than skeletal material)</u> In the event a suspected Aboriginal heritage value (other than skeletal material) is uncovered during construction, the following process must be followed, in accordance with the Unanticipated Discovery Plan (AHT, 2024): - Any person who believes they have uncovered Aboriginal values should notify all employees or contractors working in the immediate area and to stop ground disturbance works until an exclusion zone is put in place . The Contractor must notify TI of potential Aboriginal values. - A temporary exclusion zone of at least 10m must be established around all visible Aboriginal values to protect the suspected Aboriginal site. No unauthorised entry or works is allowed within the exclusion zone until the suspected Aboriginal values have been assessed by a consulting archaeologist, Aboriginal Heritage Officer or Aboriginal Heritage Tasmania (AHT) staff member. - Contact AHT on 1300 487 045 as soon as possible but no later than 48h from the discovery of the value and inform them of the discovery. Documentation of the find should be emailed to aboriginalheritage@dpac.tas.gov.au as soon as possible. AHT will then provide further advice in accordance with the <i>Aboriginal Heritage Act 1975</i> (Tas). A copy of the Unanticipated Discovery Plan (AHT, 2024) must be kept on site during all ground disturbance and construction work. All construction personnel must be made aware of the Unanticipated Discovery Plan and their obligations under the <i>Aboriginal Heritage Act 1975</i> (Tas).	Contractor/ TI's Consulting Archaeologist/Aboriginal Heritage Officer/ AHT

EPR	Mitigation measure	Accountability
7.6	<u>Unanticipated Discovery Plan – historic heritage objects or features</u> In the event a suspected historic heritage object or feature is uncovered during construction, the below process will be followed. 1. Any person who believes they have uncovered a suspected heritage object or feature must notify any machinery operators working in the immediate area and to stop ground disturbance works until an exclusion zone is put in place. The Contractor must notify TI of potential heritage material. 2. Establish an exclusion zone with a buffer of 5 m around the suspected heritage object or feature. No entry or disturbance within the exclusion zone is permitted until the suspected heritage object or feature has been assessed by a qualified heritage consultant and appropriate mitigation measures identified. 3. A qualified heritage consultant must be engaged by TI to assess the suspected heritage object or feature. The heritage consultant will notify and consult with Heritage Tasmania, the Heritage Council and the local council. 4. If the heritage object or feature is movable, it must be recorded, photographed and a decision made by the qualified heritage consultant as to whether the object or feature should be re-located. If the heritage object or feature is unmovable, it must be recorded, photographed, and a Heritage Impact Assessment and Heritage Management Plan undertaken by a suitably qualified heritage consultant. The report must be submitted to Heritage Tasmania, the Heritage Council and the local council for review and advice on possible outcomes.	Contractor / TI / TI's Qualified heritage consultant
7.7	<u>Unanticipated Discovery Plan – human skeletal material</u> In the event a suspected human skeletal material is uncovered during construction, the below process must be followed, in accordance with the Unanticipated Discovery Plan (AHT, 2024): 1. Contact Tasmania Police (131 444) immediately. Under no circumstances should the suspected human skeletal material be touched or disturbed. The area should be managed as a crime scene. It is a criminal offence to interfere with a crime scene. The Contractor must notify TI of potential human skeletal material. 2. Any person who believes they have uncovered human skeletal material must notify all employees or contractors working in the immediate area and all ground disturbance works must stop until an exclusion zone is in place and TI has approved recommencement of works. 3. An exclusion zone with a buffer of 50 m around the suspected human skeletal material must be established. No entry or disturbance within the exclusion zone is permitted until the suspected human skeletal material has been assessed by the Police and/or coroner.	Contractor/TI/Tasmania Police/Coroner/AHT

EPR 8 – Environmentally hazardous materials

EPR	Mitigation measure	Accountability
8.1	The storage, handling and transport of dangerous goods, explosives and dangerous substances must comply with the requirements of relevant state Acts and any regulations thereunder, including: • <i>Work Health and Safety Act 2012</i> (Tas) • <i>Explosives Act 2012</i> (Tas) • <i>Dangerous Goods (Road and Rail Transport) Act 2010</i> (Tas).	Contractor
8.2	All environmentally hazardous substances on site must be registered on a project dangerous goods register.	Contractor's Project Environmental Advisor
8.3	Storage and handling of environmentally hazardous materials must be handled in accordance with the applicable standards and safety data sheets for the substance.	Contractor
8.4	Environmentally hazardous material storage areas will be suitably designed to adequately contain any spills and leaks (i.e. bunded in accordance with the Bunding and Spill Management Guidelines (EPA Tasmania, 2015)).	Contractor
8.5	Spill kits must be located adjacent to all hazardous substance storage units, in refuelling and maintenance areas, and at other designated locations throughout the site. The types and sizes of spill kits on site must be selected based on the types and volumes of materials stored. Aquatic spill kits shall be available at project sites near waterways.	Contractor
8.6	Refuelling within 30 m of a watercourse is not permitted.	Contractor
8.7	Management of environmentally hazardous materials must be covered in site inductions. Construction staff working with environmentally hazardous materials will undergo spill response training, as well as safe handling and storage training.	Contractor's Project Environmental Advisor
8.8	Containment devices, including bunds, separators and catch trays, will be used wherever there is a risk of spillage.	Contractor
8.9	Construction vehicles, equipment and plant will be regularly inspected and maintained to prevent leaks of hazardous substances, such as fuel and hydraulic fluid.	Contractor
8.10	An Emergency Response Procedure, which includes a spill procedure in accordance with the Bunding and Spill Management Guidelines (EPA Tasmania, 2015), must be prepared by the Contractor. TI's project representative will be responsible for reviewing and approving the Emergency Response Procedure.	Contractor/TI's project representative

EPR 9 – Bushfire risk

EPR	Mitigation measure	Accountability
9.1	Regular and timely consultation must be undertaken with all relevant regulatory authorities and all relevant fire restrictions, notification requirements, and permitting procedures must be followed.	Contractor's Project Environmental Advisor
9.2	Construction must be scheduled to avoid high fire danger days to the extent practicable. Potential spark-generating activities, such as rock breaking or ripping, shall not be undertaken on days of total fire ban as declared by the Tasmania Fire Service.	Contractor
9.3	Construction activities that pose a fire risk in fire prone areas must be discontinued during extreme high fire danger periods.	Contractor
9.4	Welding blankets or other fire-resistant mats will be used at welding or grinding stations in areas where minimal clearing of vegetation has occurred.	Contractor
9.5	Machinery or equipment that may pose a potential fire hazard, e.g. petrol driven pumps, generators and other potential ignition sources, will be sited away from flammable materials, including vegetation, as far as practicable. When this is not practicable, flammable materials, including vegetation, will be cleared from the immediate vicinity.	Contractor
9.6	Machinery will be maintained and operated so as to comply with relevant fire safety standards	Contractor
9.7	Machinery and vehicles not in use will be parked in areas free of flammable material and vegetation (e.g. not parked over shrubs, tall grass or cleared vegetation residue).	Contractor
9.8	Appropriate firefighting equipment will be stored at all work and site offices in accordance with the requirements of the relevant State fire protection requirements. Equipment will be of the required standard and will be inspected and well maintained throughout the construction phase	Contractor
9.9	Construction machinery and vehicles will be equipped with firefighting equipment (e.g. water knapsacks, rake hoes and fire extinguishers) as appropriate.	Contractor
9.10	Available construction equipment, such as earthmoving machinery and water trucks, will be kept on standby at the construction site during work operations in high fire risk areas for fire control if required.	Contractor
9.11	Construction workforce bushfire education and training will be undertaken, as appropriate, addressing fire prevention and safety, personnel responsibilities, and basic fire suppression.	Contractor
9.12	When potential spark-generating activities are conducted in a fire risk in fire prone areas a fire watch shall be maintained throughout the activity, and for not less than two hours afterwards.	Contractor

EPR	Mitigation measure	Accountability
9.13	An Emergency Response Procedure, including a fire mitigation and management plan, shall be prepared by the Contractor. TI 's project representative will be responsible for reviewing and approving the Emergency Response Procedure.	Contractor / TI 's Project Representative

EPR 10 – Waste

EPR	Mitigation measure	Accountability
10.1	The waste management hierarchy is to be applied to all potential waste streams: avoidance, reuse, recycling, energy recovery, repository storage (for future treatment/recovery), treatment, and disposal or permanent containment.	Contractor
10.2	Designated and clearly signed bins will be provided at site compounds and work sites for all waste streams. Waste will be routinely disposed of at an appropriately licenced facility.	Contractor
10.4	Opportunities for beneficial reuse of excess rock or clean fill material (meeting the definition of Fill Material (Level 1) under Information Bulletin No. 105 – Classification of Contaminated Soils (EPA Tasmania, 2018) will be investigated with surrounding landowners. If reuse is not possible, clean fill will be disposed of in accordance with the AMM for the Disposal of Clean Fill Type 1 and Type 2 (EPA Tasmania, 2024), or at an approved waste management facility. Any beneficial reuse outside of the construction project area will be assessed on a case-by-case basis to ensure there are not impacts to MNES .	Contractor
10.5	Hydrotest water will be re-used along test sections of the pipeline where possible.	Contractor
10.6	Hydrotest water will be preferentially discharged to land or storage dam for re-use (e.g. for irrigation) where consistent with the requirements of the <i>State Policy on Water Quality Management 1997</i> , i.e. re-use: • can be carried out in an environmentally sustainable manner • incorporates the use of best practice environmental management • will not compromise the water quality objectives for surface or groundwaters • will not give rise to an unacceptable risk to human or animal health; and • involves less net environmental risk than other strategies for dealing with the wastes.	Contractor
10.7	Controlled waste within Tasmania must be handled in accordance with the <i>Environmental Management and Pollution Control (Waste Management) Regulation 2020</i> (Tas).	Contractor
10.8	Where temporary toilet facilities are used, documented periodic inspections must be undertaken and a pump out schedule implemented and maintained.	Contractor
10.9	Burial or burning of waste is not permitted.	Contractor
10.10	Concrete and concrete washout are controlled wastes (code C100, basic solutions or bases). Excess concrete and concrete washout is not to be discharged to unprepared land, stormwater, or adjacent to waterways. Concrete washout facility must always be used, and must be bunded constructed and stored on site (e.g. in a lined earthen	Contractor

EPR	Mitigation measure	Accountability
	bund or concrete washout bag) until the conclusion of works and then disposed of at an appropriately licenced facility or other beneficial reuse (e.g. road lining) approved by the EPA .	
10.11	Site compounds and work sites will be maintained to an orderly and hygienic standard.	Contractor
10.12	Copies of any approvals or licences obtained for waste disposal must be retained and a copy send to TI to ensure legal compliance.	Contractor/ TI 's project representative

EPR 11 – Construction traffic

EPR	Mitigation measure	Accountability
11.1	Site access maps and Vehicle Movement Plan will be developed by the Contractor showing routes to be used by all construction personnel to access the construction corridor . The site induction developed by TI will include information on site access routes.	Contractor /TI
11.2	Public access via the site access routes will be restricted through adequate signage, gates and site security.	Contractor
11.3	All construction traffic will adhere to designated roads and associated speed limits, including on internal tracks.	Contractor
11.4	Dilapidation surveys will be completed for major access roads to be used during construction, to be identified in consultation with TI's project representative. Access roads will be restored to the extent required by the relevant road authority following completion of construction.	Contractor/TI's project representative
11.5	Any damage to private property caused during access (e.g. to fences) will be reported to TI's project representative immediately.	Contractor/TI's project representative

EPR 12 – Contaminated soil and acid sulphate soils

EPR	Mitigation measure	Accountability
12.1	Acid sulphate soils (ASS) management plans must be developed by the Contractor for sites of known ASS and potential acid sulphate soils (PASS) (as shown on the CEPs) in accordance with the Tasmanian Acid Sulphate Soil Management Guidelines (DPIPWE, 2009). The plans must: - Identify the area of PASS/ASS - Provide procedures for the management of ASS/PASS, including stockpiling, remediation, treatment (lime dosing), and reuse/disposal, in accordance with relevant guidelines and standards. - Identify approval requirements for disposal	Contractor
12.2	In the event unanticipated PASS materials are discovered or suspected, the following must be undertaken: - Works must cease in the area, and TI's project representative notified immediately, with works to remain ceased until approval to proceed has been given. - Field screening tests must be conducted in accordance with the Tasmanian Acid Sulphate Soil Management Guidelines (DPIPWE, 2009) by a Suitably qualified expert. - Laboratory testing must be undertaken in the event PASS are identified from the screening test. - In the event ASS are identified from the laboratory testing, an ASS management plan must be developed in accordance with the Tasmanian Acid Sulphate Soil Management Guidelines (DPIPWE, 2009). - Works will recommence upon approval of the management plan by TI.	Contractor/ TI 's project representative/ ASS consultant
12.3	All known areas of ASS/PASS will be communicated to site personnel via toolbox talks, pre-starts and GIS planning maps .	Contractor
12.4	Water runoff from ASS/PASS stockpiles must be contained, treated and suitably disposed of.	Contractor
12.5	If potentially contaminated materials are discovered or suspected, works must cease in the area and TI 's project representative notified immediately. Any potentially contaminated soil is to be sampled, tested, classified, and disposed/treated by the Contractor in accordance with EPA Information Bulletin 105 – Classification of Contaminated Soils (EPA Tasmania, 2018).	Contractor/ TI 's project representative
12.6	When rehabilitation is required, the selection of species must include those known to be tolerant of low pH, with a preference to sedges, rushes and grasses due to their higher level of tolerance and their capacity to act as filters in acidic conditions.	Contractor

EPR 13 – Rehabilitation and reinstatement

EPR	Mitigation measure	Accountability
13.1	Rehabilitation must commence as soon as practicable according to seasonality, and no later than 30 days after the completion of construction works at each site. The timing of planting must consider seasonal and local climatic conditions, such as autumn and spring planting windows, as well as the seasonal fluctuations in rainfall. It is essential that each area and section is rehabilitated progressively, starting within 30 days, and adjusted according to seasonal variations.	Contractor
13.2	Site specific planting plans must be developed by the Contractor for each revegetation location and reviewed by TI's suitably qualified ecologist. Any planting plan must: - incorporate a clear explanation of species selection, planting density and transition of species towards the target TasVeg community and associated structural components. - the plan must consider the location conditions and likelihood of success. - include monitoring measures to track implementation success i.e. 70% plant survival rate over 24 months	Contractor / TI's Suitably qualified ecologist
13.3	Site preparation must include weed control and soil preparation (refer to Revegetation projects – a best practice guide for Tasmania, NRM North 2016)	Contractor
13.4	Revegetation is to be undertaken using local provenance seed from the corresponding vegetation community which has been impacted. Species must align to the TasVeg community description. The NRM South and Understorey Network municipal plant species list provide a guide of appropriate species for propagation and restoration – see http://www.understorey-network.org.au/municipalities.html	Contractor
13.5	Planting densities must be undertaken with the aim of reinstating the TasVeg community structure as defined by the Vegetation Condition Benchmarks e.g. 40% Tree Cover, 30% shrub cover and 30% grass and herbs for a specific community type.	Contractor
13.6	Revegetation methods must minimise the potential introduction of weeds and pathogens. This includes using appropriately cleaned seed sources and tube-stock from nurseries which adhere to strict biosecurity protocols.	Contractor
13.7	Plants must be protected from herbivores through fencing areas or installing plant guards. Reducing plastic pollution is required and plant guards should be cardboard where they provide adequate protection and or if another material is used they must be recycled.	Contractor

13.8	Measures for rehabilitating and reinstating watercourse crossings must include: Consideration of flow dynamics and the likelihood of rehabilitation success • The use of coarse woody debris or other natural structures to slow water where river characteristics are likely to limit the success of rehabilitation • Dense replanting with 10,000 plants/ha must be used where stream morphology allows i.e. slow sweeping bends and straight stretches. • Plantings must include a mixture of trees, understorey and ground cover species to ensure quick coverage of bare ground and longer-term binding of soil with deep rooted plants	Contractor
13.9	Reinstatement of habitat structural elements for small mammals: • Any habitat features (such as timber, rocks, and other materials) that can be removed during pipeline construction should be stored and replaced within the construction area as part of the restoration work. • If habitat features are stockpiled on the edge of the construction corridor, they must be assessed for wildlife use by a suitably qualified ecologist before they can be reinstated back into their original location.	Contractor / TI's Suitably qualified ecologist
13.10	Species selection for restoration of specific habitat must include grasses and sedges which are quick growing and essential for cover such as <i>Poa</i> spp. and <i>Lomandra</i> spp.	Contractor
13.11	Long term monitoring must be undertaken on a 5 yearly basis to ensure rehabilitation and restoration targets are achieved.	TI
13.12	Swift Parrot (<i>Lathamus discolor</i>) habitat restoration focuses on forage reinstatement. The forage trees must be either <i>Eucalyptus globulus</i> or <i>E. ovata</i> . Dense plantation style restoration is appropriate for forage with density of 10,000 trees per hectare. This density encourages fast growth and flowering.	
13.13	Rehabilitation near occurrences of <i>Caladenia</i> sp. Facilitated natural regeneration of any disturbed area within 50 m of optimal <i>C. tonellii</i> habitat must allow threatened orchid species every opportunity to utilise the disturbed open ground. If natural regeneration is at odds with rehabilitation plans required for other purposes, then it is recommended that planting density of shrubs, rushes, and sedges is minimal within areas immediately adjacent to optimal habitat (the area equivalent to the pre-clearance search area).	Contractor

3. Contractor management plans

The **EPRs** identify and reference management plans to be prepared by the contractor (post-approval of the project), summarised in Table 3-1. These management plans require detailed information on the specific site conditions and construction methodology that are currently unknown. The management plans must meet the minimum standards identified the **EPRs** (including requirements relating the **MNES**) and will be subject to review and approval by **TI**. The management plans must incorporate any relevant conditions of approval issued for **the Project**.

Table 3-1 Summary of management plans to be prepared by the contractor (post approval)

Management plan	Relevant EPR	Reference document/standards
Weed and disease management plan	EPR 2 EPR 1B.11	- Weed and Disease Planning and Hygiene Guidelines (DPIPWE, 2015) - Keeping it clean - A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens (NRM South, 2010) - Hygiene protocols for the control of diseases in Australian frogs (Murray, et al., 2011)
Erosion and sediment control plan	EPR 4 (exc. 4.2)	Erosion and Sediment Control – the fundamentals for development in Tasmania (TEER, 2023)
Emergency response procedure	EPR 8.10 EPR 9.13	- Bunding and Spill Management Guidelines (EPA Tasmania, 2015) - Bushfire guidelines
Vehicle Movement Plan	EPR 11.1	N/A
ASS Management Plans	EPR 12.1	Tasmanian Acid Sulphate Soil Management Guidelines (DPIPWE, 2009)
Water quality monitoring plan	EPR 4.2	- Default Guideline Values for Aquatic Ecosystems of the Mersey Catchment - An Introduction to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC, 2000)

4. Construction Environmental Plans and Construction Environmental Tables

The Construction Environmental Plans and Construction Environmental Tables will be developed for each section of the **construction corridor** to detail the location-specific values/impacts and required mitigation measures.