Sassafras Wesley Vale Irrigation Scheme Augmentation (SWISA) Project

Shaw Contracting (Aust) Pty Ltd

Environmental Management Plan Appendix A: Weed and Hygiene Management Plan

JBS&G 70498| 172,021

9 January 2026

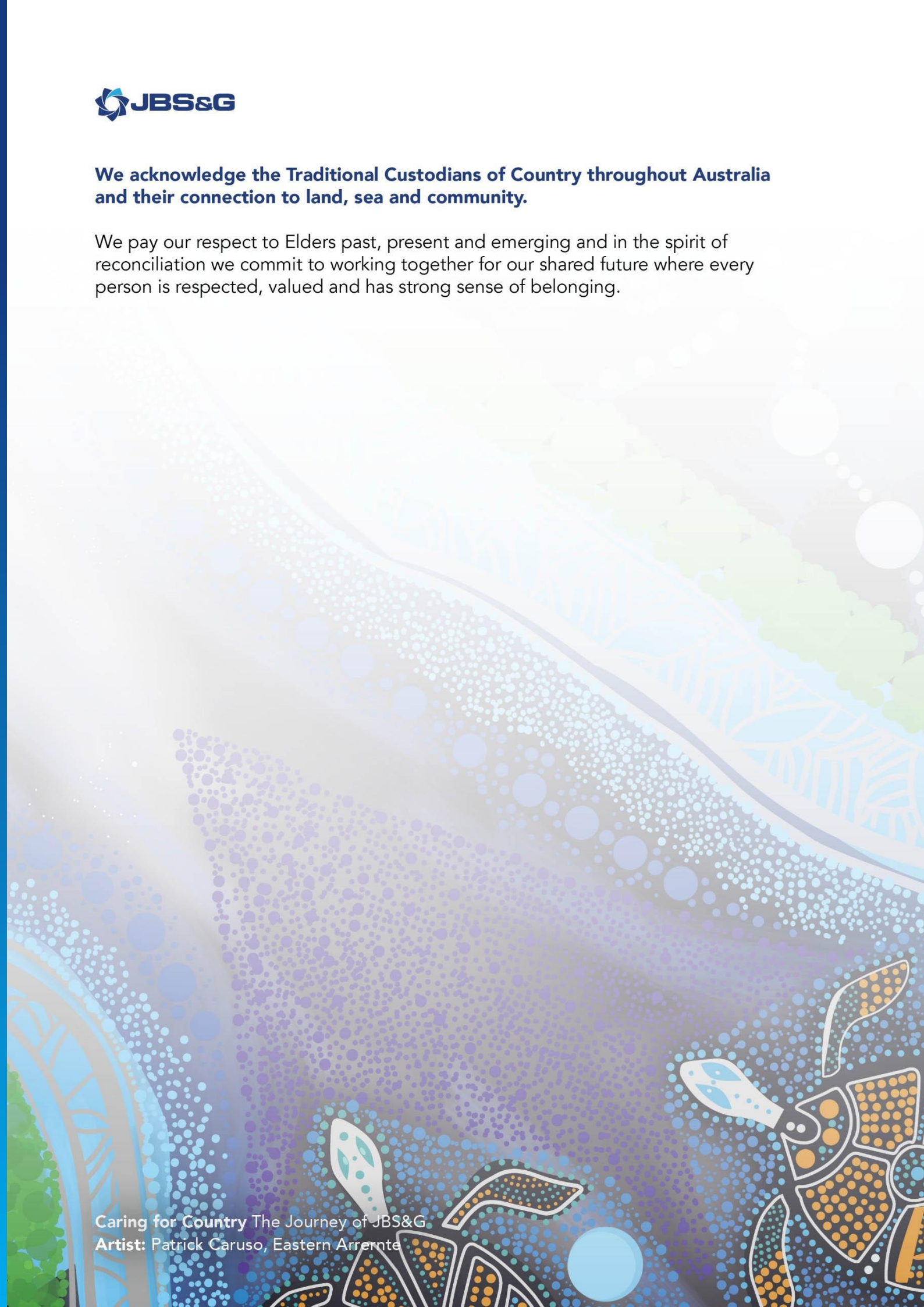
CHANGE HISTORY

Approved by: Shaw Project Manager

Issue	Clause	Change Description	Date
A	All	First Issue	17/11/2025
B	All	Changes following TI review comments issued 18/12/25	23/12/2025
C	All	Changes following TI review comments issued 7/01/26	09/01/2026
D			

We acknowledge the Traditional Custodians of Country throughout Australia and their connection to land, sea and community.

We pay our respect to Elders past, present and emerging and in the spirit of reconciliation we commit to working together for our shared future where every person is respected, valued and has strong sense of belonging.



Caring for Country The Journey of JBS&G
Artist: Patrick Caruso, Eastern Arrernte

Appendix A Weed and Hygiene Management Plan

Introduction

The purpose of this Weed and Hygiene Management Plan (WHMP) is to ensure appropriate management of weeds, pests, and diseases associated with SWISA construction activities. The WHMP identifies mitigation measures and environmental controls, specifically EPR 3, to eradicate, and prevent the spread of declared weeds, environmental weeds, pest animals, and pathogens. It applies to all works within the construction corridor, including pipeline installation, access tracks, laydown areas, and operational zones. Management of weeds, pests, and diseases follows the *Tasmanian Weed and Disease Planning and Hygiene Guidelines* (2015) (DPIPWE 2015), which provides the foundational framework referenced throughout this plan for structure, hygiene protocols, control methods, and adaptive management.

Project elements within the Warrawee Conservation Area were separately assessed to meet Parks and Wildlife Service (PWS) requirements, given its status under the *National Parks and Reserve Management Act 2002*.

Site Description and Location

As described in Section 3, the Project area encompasses linear construction corridors for pipeline installation, upgraded access tracks, laydown and stockpile areas, pump stations, reservoirs (e.g., Saggers Hill), and multiple freshwater subcatchments as defined by the Conservation of Freshwater Ecosystem Values (CFEV) Sub-Catchments layer on LISTmap. Known weed and pathogen-infested areas identified in the CEMP and the SWISA Natural Values Assessment (North Barker NVA 2025) and will be clearly marked during on-ground works with signage and barriers prior to construction commencement to direct hygiene focus and control efforts. Areas mapped as GGF habitat or dispersal routes are strictly excluded from chemical weed control, requiring manual methods only to protect ecological values.

Detailed site maps identify entry/exit points, approved washdown locations (minimum one per CFEV sub-catchment), quarantine/exclusion zones around high-priority weed/pathogen infestations, material stockpiles, parking areas, and approved traffic routes. These maps will be provided to all project staff during site induction and prominently displayed at key access points throughout the construction corridor.

Washdown facilities comprise:

- Primary facility: Shaw Contracting Devonport Office at 6192 Frankford Road for all plant/machinery washdown and disinfection during mobilisation and demobilisation.
- Field facilities: Mobile washdown units deployed per sub-catchment requirements (see attached brochure), equipped with hard-standing surfaces, high-pressure wash systems, and contained effluent management per Tasmanian Washdown Guidelines (DPIPWE, 2004).

Approvals and Objectives

The Project was approved by DCCEEW on 15 August 2025 (EPBC Ref 2023/09666). Condition 7 of the EPBC approval requires the preparation and ongoing implementation of a Weed and Hygiene Management Plan (WHMP) in accordance with:

- *Weed and Disease Planning and Hygiene Guidelines* (DPIPWE, 2015)
- *Keeping it Clean – A Tasmanian Field Hygiene Manual* (NRM South, 2010)
- *Hygiene Protocols for the Control of Diseases in Australian Frogs* (DSEWPaC, 2011)

This WHMP has been developed and implemented in accordance with EPR 1B.11 and EPR 2 of the Project CEMP.

Weed and Hygiene Management Plan EPRs

EPR	General Description
1B.11	Shaw must ensure the WDMP allows for the retention of woody weed species such as gorse and blackberry within known BCF habitat areas, unless those areas are fenced to exclude livestock, as these weeds provide protection from trampling, and the plan must be reviewed and approved by TI.
2.1	Shaw must prepare a TI-approved Weed and Disease Management Plan (WDMP) consistent with state hygiene guidelines and incorporating Warrawee Conservation Area and landowner requirements.
2.2	Shaw must undertake weed control in accordance with the WDMP before and after construction, using licensed operators and consulting with landowners prior to chemical treatment.
2.3	Shaw must clearly mark all known weed or pathogen-infested areas identified in the CEPs on-ground as management areas before construction starts.
2.4	Shaw must wash down all vehicles, machinery, and equipment in line with Tasmanian Washdown Guidelines before site entry, after exposure to infested areas, and when crossing sub-catchments, with washdown locations defined in the WDMP and registers available for TI audit.
2.5	Shaw's construction inductions must include WHMP requirements, hygiene protocols, exclusion zones, and washdown procedures for all personnel.
2.6	Shaw personnel must clean boots and exposed areas before site entry and after working in infested or sensitive habitats, using portable wash stations and approved disinfectants.
2.7	Shaw may only use APVMA-approved herbicides, avoiding spraying within 5 m of waterways or GGF habitat, where manual weed removal methods are required.
2.8	Shaw must use only the access tracks and roads approved by TI's project representative when entering or moving within the construction corridor.

Existing and potential weed and disease issues

Surveys conducted for the Project documented weeds across the area, highlighting difficult to control species such as widespread blackberry, gorse at forest edges, and Chilean needle grass. Cats represent the primary recorded pest animal in the project area, posing risks to native fauna through predation and competition, with temporary vegetation clearance potentially increasing their activity. No *Phytophthora*

cinnamomi was detected during surveys (though possibly present in low abundance), while chytrid fungus is assumed present based on desktop records.

Recorded weed species

Twelve declared weeds under the Tasmanian Biosecurity Act 2019 were recorded across the SWISA Survey Area during field surveys, representing legally binding species that landowners must control or contain to prevent environmental, agricultural, and biodiversity impacts (weed distribution mapped in Attachment D of the SWISA NVA [EPBC 2023/09666, 2025, see North Barker NVA 2025]). Details of declared and non-declared weeds in described in the tables below.

Weeds of National Significance (WoNS), listed under the *Australian Weed Strategy 2017-2027*, are nationally prioritised for their environmental and economic impacts. All WoNS are declared weeds in Tasmania, attracting state/regional focus and potential national funding, but impose no additional legal duties beyond Biosecurity Act obligations.

Declared Weed Classification (Biosecurity Act 2019/Biosecurity Regulations 2022) provides municipal-level statutory management plans:

- Class A: Localised/eradicable infestations; and
- Class B: Widespread/non-eradicable, which is to prevent further spread from municipality, to weed-free properties, or significant ecological sites.

These classifications drive SWISA management priorities.

Declared weeds and Weeds of National Significance (WoNS) identified in the Project area.

Species	Common Name	Status (Biosecurity Act 2019)	WoNS	Comments
Carduus tenuiflorus	Winged thistle	Class B	No	Dense patch near Saggers Hill pipeline alignment Fence line north of Winspears Road.
Cytisus scoparius	English broom	Class B	Yes	Paddock/native bushland interface, Native Plains Road (near apple orchards).
Erica lusitanica	Spanish heath	Class B	No	Scattered along roadsides/fence lines Widespread regionally.
Foeniculum vulgare	Fennel	Class B	No	Patches along Oppenheims Road (roadside/agricultural land).
Genista monspessulana	Montpellier broom	Class B	Yes	Seedlings abundant at Saggers Hill reservoir site Mature plants Native Plains Road.
Hypericum perforatum subsp. *veronense*	Perforated St Johns-wort	Class A	No	One 16 m² patch on Beer Street.
Ilex aquifolium	Holly	Class A	No	Three locations Main populations Knights Creek/gully (mature trees/recruits).
Lycium ferocissimum	African boxthorn	Class B	Yes	Native forest/agricultural interface, far west Survey Area.
Rubus fruticosus	Blackberry	Class B	Yes	Widespread/abundant along fence lines, drains, wet areas, *Melaleuca ericifolia* swamp forest.
Salix × fragilis var. *fragilis*	Crack willow	Class B	Yes	Isolated infestations along creeks/rivers Main on Mersey River opp. Great Bend pump station.
Senecio jacobaea	Ragwort	Class B	No	Single location between Cornelius Road/Knights Creek (scattered in remnant/paddocks).
Ulex europaeus	Gorse	Class A (Devonport); Class B (Latrobe)	Yes	Localised infestations at forest/agricultural interfaces.

Additional concern: *Nassella neesiana* (Chilean needle grass) is present near Frankford Road and is managed under the Department of State Growth's Priority Weed Program.

Non-declared environmental weeds in SWISA survey area

Species	Common Name	Status	Distribution/Notes
Cirsium vulgare	Spear thistle	Environmental (non-declared)	Widespread agricultural weed Common in disturbed areas, paddocks, roadsides.
Crataegus monogyna	Hawthorn	Environmental (non-declared)	Widespread Recorded in buffers, degraded DOV Fence lines, agricultural drains.
Rosa rubiginosa	Briar rose	Environmental (non-declared)	Widespread Grazing-modified understorey, farm paddocks, forest interfaces.
Typha latifolia	Cumbungi	Environmental (non-declared)	Wet areas, drains, riparian zones Displaces native sedges/rushes.
Vinca major	Blue periwinkle	Environmental (non-declared)	Garden escapee Shaded remnants, gullies, moist forest understorey.
Watsonia meriana var. *bulbillifera*	Watsonia	Environmental (non-declared)	Roadsides, paddocks Bulbils spread via soil/machinery Fire response.

Pathogens

Phytophthora cinnamomi (Dieback)

No signs of *Phytophthora cinnamomi* (dieback/root rot fungus) were observed during NBES surveys, though low abundance remains possible given the project area's suitability within the altitudinal and rainfall range, with five previous records within 5 km (last in 2017, none within the irrigation district). Risks of introduction/spread arise from new tracks, vegetation clearance, and machinery/soil movement.

Chytrid fungus (*Batrachochytrium dendrobatidis*)

Chytrid fungus (*Batrachochytrium dendrobatidis*) has one 2004 record near Hawley Beach and sporadic occurrences across northern Tasmania. Central north Tasmania shows high environmental suitability, so presence is assumed, requiring targeted washdowns for waterways and dams.

Potential Impacts and Risks

Construction activities (machinery use, vegetation clearing, and soil handling) create potential for weed and disease spread, especially to MNES such as GGF, BCF, and threatened vegetation communities.

- GGF – Potential chytrid spread from contaminated water or machinery; likelihood low due to shallow farm dam conditions.

- CNBC – Risks from soil compaction and dense root mats, though woody weeds can offer trampling protection.
- Threatened Flora (e.g., *Caladenia caudata*, *C. tonellii*) – Weed invasion and *Phytophthora* may reduce habitat quality.
- Threatened Vegetation (DOV, NME) – Potential degradation from weed incursion; corridor narrowed to 6 m in sensitive areas.
- Warrawee Conservation Area – Works limited to existing disturbed tracks to reduce vegetation disturbance.

Summary of Potential Impacts and Residual Risk

Value	Potential Impact	Mitigation (EPRs)	Residual Likelihood	Consequence	Risk
GGF	Spread of chytrid fungus via equipment/water	EPR 2; EPR 1C	Unlikely	Minor	Low
CNBC	Soil compaction; weed-driven habitat change	EPR 1B; EPR 2; EPR 3; EPR 4	Unlikely	Moderate	Low
Threatened flora & vegetation	Weed/disease introduction	EPR 1; EPR 1I; EPR 2; EPR 13	Unlikely	Minor	Low
Aquatic values	Weeds altering hydrology	EPR 2; EPR 3; EPR 4; EPR 8	Unlikely	Moderate	Low

Green and Gold Frog (GGF, *Litoria raniformis*)

Construction activities such as track establishment, vegetation clearing, and machine movement have the potential to spread the amphibian pathogen chytrid fungus, which can infect GGF.

The likelihood of significant impact is low, as assessed in the Natural Values Report (NBES 2024), due to the low-altitude environment, prevalence of shallow farm dams, and generally warmer water temperatures across the project area conditions that limit chytrid survival and transmission. Targeted hygiene controls and washdown procedures outlined in the WHMP and EPR 1C will further mitigate this risk.

Central North Burrowing Crayfish (BCF, *Engaeus granulatus*)

The BCF occurs primarily within agricultural landscapes, with approximately 75 % of potential habitat in the Project Area already highly modified (NBES 2024). The species is tolerant of moderate disturbance but may be affected by habitat degradation if dense tussock or sedge weeds establish, as these plants form compact root mats that impede burrowing.

While gorse and blackberry are listed as threats in national conservation advice, field observations suggest that woody weeds can provide a protective function by buffering crayfish from livestock trampling. Accordingly, woody weeds will be retained within known CNBC habitat areas unless fenced to exclude livestock, as required by EPR 1B.11.

Threatened Flora

Potential habitats for tailed spider-orchid (*Caladenia caudata*) and robust fingers (*Caladenia tonellii*) occur within the Warrawee Conservation Area, though no individuals are present within the construction corridor. As a result, direct impacts are not expected. However, construction could indirectly affect these species if

weeds or *Phytophthora cinnamomi* are introduced, leading to increased competition or reduced habitat quality.

Potential impacts to wrinkled dollybush (*Cassinia rugata*) are limited to possible weed invasion or clearance outside the corridor; no occurrences were recorded, and construction is unlikely to cause direct or indirect impacts.

Threatened Vegetation Communities

Two native vegetation communities listed under the Nature Conservation Act 2002 occur in the construction corridor: Eucalyptus ovata forest and woodland (DOV) and *Melaleuca ericifolia* swamp forest (NME). Approximately 0.03 ha of DOV and 0.13 ha of NME will be affected, primarily through temporary disturbance.

The DOV community aligns with the EPBC-listed ecological community Tasmanian Forests and Woodlands Dominated by Black Gum or Brookers Gum, though the areas within the construction footprint do not meet the listing criteria. A qualifying patch adjacent to the alignment has been avoided, and the corridor narrowed to 6 m to maintain a protective buffer consistent with EPR 1I.7.

As the project is assessed under the Land Use Planning and Approvals Act 1993, a Forest Practices Plan is not required. All temporarily disturbed areas will be revegetated in accordance with the Rehabilitation and Reinstatement Plan.

Aquatic Values

Weeds can degrade watercourses by displacing native riparian vegetation, altering channel form, and reducing water quality.

Pipeline crossings primarily occur at man-made irrigation drains and minor watercourses. Major waterways are avoided. Horizontal directional drilling will be used for significant crossings, minimising sedimentation, disturbance, and potential spread of aquatic weeds or chytrid fungus, consistent with EPR 2, EPR 3, and the CETs/CEPs.

Warrawee Conservation Area

The Warrawee Conservation Area, a 227 ha reserve located approximately 4 km south of Latrobe, is managed by the Tasmanian Parks and Wildlife Service under the *National Parks and Reserves Management Act 2002*.
The existing Great Bend Pump Station lies within this reserve and will be upgraded as part of SWISA works, including a connecting buried pipeline to the Saggers Hill Balance Tank. Where new pipeline will be installed within the reserve, a dedicated Natural Values Assessment (NBES 2024) for this section was completed to address PWS requirements and has informed the mitigation and hygiene measures in this WHMP.

This WHMP recognises that works within the Warrawee Conservation Area are authorised under an Authority for Acts or Omissions on Reserved Land issued pursuant to Regulation 28 of the National Parks and Reserves Management Regulations 2019, which permits specified construction activities for the SWISA project between 17 December 2025 and 17 June 2026 subject to strict Parks and Wildlife Service (PWS) conditions on biosecurity, fire risk, pollution and wildlife protection.

All SWISA personnel and contractors must comply with the Authority's conditions, including pre-notification to PWS, maintenance of a daily on-site personnel register, adherence to Keeping it Clean hygiene protocols and Project CEMP requirements, restricted vehicle access within the mapped construction corridor only, and timely reporting (within 24–48 hours) of any condition breaches to the PWS North West Regional Manager.

Environmental Management Measures

Priorities Potential impacts from the spread and introduction of weeds will be managed and mitigated through the implementation of the following EPRs:

- EPR 2 – Weeds, pests and disease
- EPR 1B – Burrowing crayfish
- EPR 1C – Green and gold frog
- EPR 1I – Threatened flora and vegetation communities
- EPR 13 – Rehabilitation and Restoration

Preventative and control measures outlined in the Project CEMP and relevant EPRs are discussed in detail below.

Works within the Warrawee Conservation Area are authorised under a PWS Authority for Acts or Omissions on Reserved Land (Reg. 28, valid 17 Dec 2025–17 Jun 2026), which mandates strict biosecurity measures including pre-entry vehicle washdowns per *Keeping it Clean* protocols, certified pathogen-free materials, restricted access to the mapped construction corridor, and immediate breach reporting to PWS North West Region. These requirements are fully integrated into the WHMP and implemented alongside EPRs 2, 1B, 1C, 1I, and 13.

Preventative Measures

Shaw will oversee continuous and ongoing identification of weeds, pests, and diseases throughout the project lifecycle. Weed control and hygiene measures commence pre-construction, continue in stages aligned with each construction phase, and include post-construction follow-up treatments every six months during spring and autumn, extending through the 2-year defects liability period to ensure long-term effectiveness and compliance.

Washdown stations

Washdown protocols follow *Tasmanian Washdown Guidelines* (DPIPWE 2004) and EPR 2.4 to prevent weed/pathogen transfer between catchments and sensitive areas. This includes the following washdown protocols:

- For All machinery/vehicles cleaned pre-mobilisation, after exposure to infested areas, and prior to cross-catchment transfers.
- Primary washdown: Shaw Contracting Devonport Office (6192 Frankford Road). This location will be in GIS and reviewed as part of the pre-clearance checklist and site walkover.
- Mobile washdowns: Deployed per sub-catchment, with effluent containment.

Dry brush or compressed air methods permitted in dry conditions if 100 % material removal achieved.

Boot Cleaning Stations

Personal hygiene prevents pathogen transmission to GGF habitat and waterways per EPR 2.6. This includes:

- Mandatory personal cleaning before site entry, between infested areas, and before/after GGF habitat works.
- Portable wash baths with approved disinfectant (e.g., Phytoclean or F10) to be positioned at strategic locations.

Site Plans

Site-specific plans ensure spatial awareness of hygiene and exclusion requirements per EPR 2.3. Each site-specific plan will consider/map the following

- Entry/exit and washdown points
- Boot wash stations and exclusion zones
- Declared weed locations and stockpiles
- Weed-infested zones flagged prior to works

Training and Education

Induction training builds personnel competency in WHMP implementation per EPR 2.5. This includes:

- Induction includes weed/pathogen identification, hygiene procedures, and frog handling protocols.
- Toolbox talks reinforce EPR-related requirements and critical wash-down procedures.

Frog Handling

Specialised protocols protect GGF from disease transmission during unavoidable encounters. Only ecologists with approved *Permit to Take* may handle frogs per EPR 1C.8–1C.10 using disinfected equipment and gloves changed between individuals.

Weed Management Areas and Exclusion Zones

On-ground marking and restrictions contain known infestations per EPR 2.3 and 1I. The following will be implemented:

- Known infestations flagged on the ground and referenced in Construction Environmental Plans (CEPs).
- No works outside designated corridors.
- Species-specific exclusion zones per EPR 1I, including 10 m buffers around *Caladenia caudata* and 50 m around *C. tonellii*.
- Corridor reduced to 6 m near Black/Brookers Gum TEC.

Pre-clearance and Material Management

Pre-works verification and material certification prevent contaminated inputs per EPR 13.3, which will include:

- Pre-clearance checklist signed by site manager before works.
- All imported materials certified “weed-free.”
- Soil from infested zones re-buried under ≥500 mm of clean fill on-site, not reused elsewhere.
- Any non-treated water sources will be disinfected with quaternary ammonium (quat) solutions before use in pathogen-sensitive areas.

Weed Control

Staged eradication prioritises declared weeds while protecting sensitive receptors per EPR 2.2 and 2.7. This includes:

- Implement staged control pre-construction, during works, and six-monthly post-construction (spring/autumn).

- Herbicides limited to APVMA-approved products; no spraying within 5 m of waterways or in GGF habitat.
- Manual removal in sensitive areas.
- Disposal: double-bagged seed-bearing or fruiting material to licensed waste facilities (not green waste) or using other methods approved by a weed specialist.

Rehabilitation

Restoration stabilises disturbed areas and prevents weed establishment per EPR 13, including:

- Disturbed areas revegetated promptly as per the Rehabilitation and Reinstatement Plan.
- Retain woody weeds within fenced CNBC habitat until post-works evaluation determines replacement vegetation structure.

Weed Monitoring and Adaptive Management

Ongoing surveillance enables early detection and response to new incursions. For weed monitoring and ongoing management, the following will be considered:

- Seasonal monitoring (spring, summer, autumn) during and after construction.
- Any new weed/pathogen locations logged in Field Maps/ArcGIS, and adaptive actions triggered (e.g., targeted control, hygiene intensification).
- Updates to this WHMP required if new species detected.

Auditing and Compliance

Defined roles and systematic reporting ensure WHMP implementation accountability across Shaw personnel, subcontractors, and TI, with compliance verified through scheduled audits and adaptive management.

Reporting

Traceability maintained through mandatory logs and periodic summaries supports auditing protocol and rapid incident response per Project CEMP requirements. This includes the following:

- Vehicle/machinery washdown register maintained by Shaw for TI audit.
- Daily/weekly site inspection checklists and monthly summary reports submitted to TI.
- Weed treatment, material movement, and hygiene event logs for full traceability.

Auditing

Scheduled CEMP audits verify WHMP effectiveness and trigger updates for new threats or changed conditions. WHMP performance will be reviewed during routine CEMP compliance audits. The annual review will ensure any changes will align with all permitting and legislative requirements.

Incidents and Non-Compliance

Rapid response protocols minimise environmental harm from hygiene failures. Non-compliance will be reported within 24 hours to TI and relevant authorities. Corrective actions include increased inspections, re-training, or intensified hygiene measures.