Duplication of Midway Point and Sorell Causeways

Application Number: **02669** Commencement Date: **05/11/2024** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Duplication of Midway Point and Sorell Causeways

1.1.2 Project industry type *

Transport - Land

1.1.3 Project industry sub-type

Road

1.1.4 Estimated start date *

02/03/2025

1.1.4 Estimated end date *

01/04/2029

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Project overview and objectives

The duplication of the Midway Point and Sorell Causeways on the Tasman Highway is a key element of the South East Traffic Solution (SETS), a joint initiative by the Australian and Tasmanian Governments. SETS aims to address growing traffic demands and improve safety and efficiency on the road network between Hobart and the southeast.

Key SETS objectives include:

- Enhancing traffic flow and reliability to reduce travel times and improve access between Hobart and the rapidly growing southeast.
- Improving road safety and resilience by developing infrastructure that withstands severe weather and future climate impacts, reducing accident risks.

With Sorell experiencing the fastest population growth in southern Tasmania—nearly triple the state average—the demand on road infrastructure is intensifying, causing congestion and delays, especially during peak hours. Additionally, Sorell's location at the junction of major tourist routes further strains the local network.

To address these issues, the Department of State Growth is advancing plans to duplicate the Midway Point and Sorell Causeways, easing congestion on the Tasman Highway and supporting SETS goals.

Background

The Midway Point and Sorell Causeways, built in 1872 and 1874 respectively, serve as key routes but face age-related limitations (Refer pages 1 and 2, Attachment E). The Midway Point Causeway, approximately 1 km long and joined by McGees Bridge (460 m, opened in 2003), spans Pitt Water with a foundation of dolerite rockfill. It was raised and widened in 2002-03 to align with the bridge. The Sorell Causeway, 1.3 km in length, has undergone significant repairs, including two major culverts installed in 1994.

Both causeways are about 48m wide, with narrow lanes and shoulders that limit traffic capacity and increase crash risk. Currently, Midway Point sees around 21,000 vehicles daily. Additionally, the deteriorating seawalls of both causeways raise concerns for future reliability, especially as they are vital links for Sorell and the Southern Beaches, with poor structural integrity against current and future storms.

Concept Design

Various options have been considered for the upgrade, focusing on cost, constructability, environmental impact, flood risk, and project goals. To meet SETS objectives, both causeways will be widened and raised, allowing for the replacement of the deteriorated seawalls. The project includes duplicating the highway, increasing capacity from two to four lanes.

The upgrade alignment prioritises the habitat of the endangered live-bearing seastar, *Parvulastra vivipara*, which is protected under the Tasmanian *Threatened Species Protection Act 1995* and listed as vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

The concept design for the Midway Point Causeway involves widening on the southern side and adding a second bridge at the eastern end, north of McGees Bridge, to connect with the Midway Point Intersection Solution. The western end will align with the Hobart Airport to Midway Point Causeway upgrade (Refer to Section 1.2.5 of this referral).

The Sorell Causeway design includes widening on the northern side, with extensions to existing culverts to maintain water flow between Orielton Lagoon and Pitt Water. This upgrade will tie into the Midway Point Intersection Solution and support a future connection to the Sorell Southern Bypass.

Project area and Disturbance footprint

The 36.2 ha Project area includes the the direct impact and indirect impact areas of the project, as shown in Attachment E, pages 1 and 2:

- 21.5 ha of the Midway Point Causeway and McGees Bridge duplication, this includes a 20 m buffer area for construction activities; and
- 14.7 ha of the Sorell Causeway, including a 20 m buffer area for construction.

Proposed Action

The proposed action includes construction activities associated with:

- Vegetation clearing adjacent to the existing highway for the purpose of increasing the road width by an additional two lanes and a central median;
- Earthworks, road pavement construction and road sealing resulting from highway widening and causeway construction;

- Constructing a new causeway alongside the existing Midway Point Causeway on the southern side to accommodate two additional lanes of traffic (four lanes; two lanes in each direction);
- Construction of a second bridge structure at the eastern end of the Midway Point Causeway, to the north of McGees Bridge;
- Constructing a new causeway alongside the existing Sorell Causeway on the northern side to accommodate two additional lanes of traffic (four lanes; two lanes in each direction);
- Land reclamation for widening of Midway Point and Sorell Causeway, the construction of new revetment walls and modification of the existing causeways;
- Removal of the existing causeways upon completion of the new causeways;
- A new shared use path along Midway Point Causeway, the second McGees Bridge and Sorell Causeway to tie in with the existing shared user pathway at Midway Point and Sorell;
- Vehicle parking for local fishers at Midway Point Causeway;
- Construction and installation of ancillary infrastructure such as road signage, fencing, lighting, stormwater management, safety barriers and retaining walls; and
- Upgrading and relocation of services such as telecommunications, power and water.

Maintenance activities will be required during operation of the Project including:

- Vegetation maintenance (e.g. mowing, weed control, revegetation); and
- Road asset maintenance including sign cleaning, litter removal, stormwater catchpit cleaning, barrier repair, road re-surfacing/repair etc.

Maintenance activities will be similar to the current regime on the existing causeway and bridge.

The aim of the design is to withstand the predicted sea level rise, while allowing tie-in sections of each causeway with existing infrastructure. The proposed widening of both causeways also endeavours to protect and minimise the impact to known live-bearing seastars and their habitat.

Refer to Attachment A, Section 1.3, pages 4 and 5, for further details on the proposed construction design.

This referral is based on the proposed concept design only as the final design of the Midway Point Causeway duplication not expected to be completed until May 2025 and Sorell Causeway in 2026. As the design is progressed from concept to preliminary design and then detailed (final) design, it is anticipated that potential environmental impacts will be further defined and minimised as much as possible. Proposed activities will not substantially change from the concept design to the detailed design. All works will occur on land already owned by or land acquired by the Crown.

Potential Environmental Impacts

The Department of State Growth has commissioned a number of natural values assessments to identify the potential impacts that could result from the duplication of the Midway Point and Sorell Causeways, including terrestrial and marine natural values surveys. Refer Attachment A, Section 1, page 10 for a full list of studies.

A number of Matters of National Environmental Significance (MNES) have the potential to occur within the project area and there is potential for impact to some MNES. Refer to Section 4 (this referral), Attachment C and Attachment D.

Based on the surveys undertaken, the proposed action has the potential to have a direct impact on MNES including:

- Widening of existing causeways and construction of a new bridge within Pitt Water Orielton Lagoon Ramsar wetland including approximately 10ha of reclamation; and
- Disturbance and modification of habitat for live-bearing seastar and migratory birds.

Potential indirect impacts to MNES include:

- Clearance of native vegetation;
- Localised indirect habitat disturbance from construction vessels;
- Increase in noise and vessel activities on the water;
- Potential temporary increase in lighting, noise, vibration and dust;
- Localised and temporary change to surface water and to stormwater quality;

- Hydrological alterations and modifications to culverts for fish passage; and
- Potential increase in pests, diseases and contaminated sediments.

A range of management and mitigation measures, both general and MNES specific are proposed to avoid and reduce the potential impact of the Proposed Action.

The Project also includes a number of mitigation measures which have the potential to benefit the environment including:

- Augmentation of natural receiver sites to provide temporary habitat for live bearing seastars during construction;
- Extension and future-proofing of intertidal habitat for live bearing seastars at Midway Point Causeway; and
- Potential improvements to water quality through alterations to hydrology and stormwater management.

Refer to Sections 3 and 4 of this referral for more detailed information on existing environment and potential environmental impacts.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

No

1.2.4 Related referral(s)

EPBC Number	Project Title
2017/8054	Tasman Highway - Holyman Avenue intersection upgrade, near Hobart International Airport, Tasmania
2020/8805	Tasman Highway Upgrade – Hobart Airport to Sorell Causeway

1.2.5 Provide information about the staged development (or relevant larger project).

The broader SETS encompasses a range of projects along the Tasman Highway, including:

- Arthur Highway Overtaking Lane - an overtaking lane on the Arthur Highway, south of Iron Creek Bridge. This project did not have potential for significant impact on MNES and did not require referral under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA)
- Midway Point Intersection Solution - Replacing the roundabout with a signalised intersection. This project did not have potential for significant impact on MNES and did not require referral under the EPBCA
- Sorell Southern Bypass - A bypass between Tasman Highway near the Giblin Drive intersection and Arthur Highway near Nugent Road. This project did not have potential for significant impact on MNES and did not require referral under the EPBCA
- Tasman Highway - Hobart Airport to Sorell Causeway - Turning facilities and two further lanes linking one of the Sorell causeways, the Causeway (unofficial name) with the new Hobart Airport Interchange. This project has potential for significant impact on MNES and was referred under the EPBCA (2020/8805). This project requires approval under the EPBCA, and as of October 2024 was still being assessed, based on Preliminary Documentation; and

- Hobart Airport Interchange Upgrade - Replacing the roundabout with an interchange. This project had potential for significant impact on MNES and was referred under the EPBCA (2017/8054). This project was deemed not to be a controlled action, and EPBCA approval was not required.

While these projects form part of the broader SETS program, the proposed action can proceed independently of these projects, and it is not reliant on these projects. The program for SETS has been funded by the Tasmanian and Australian Governments on a project-by-project basis, rather than the whole program at the outset. Assessment of all SETS proposals under a single EPBCA assessment was not deemed to be a viable option, as the SETS program has evolved with changes in the availability of funding from both the Tasmanian and Australian Governments. These projects have been discussed with the Department of Climate Change, Energy, the Environment and Water (DCCEEW).

In addition, the other SETS projects are land-based road upgrades, meaning that the potential for cumulative impacts on the same MNES across all projects is relatively low. MNES with potential for cumulative impact across the SETS projects are:

- Tailed spider-orchid (*Caladenia caudata*) – one record of this species is known from a location close to the footprint for the proposed action.

No known tailed-spider orchid plants are located within either the referral footprint for the duplication of the Midway Point and Sorell Causeways or the Tasman Highway – Hobart Airport to Sorell Causeway footprint (2020/8805), and these upgrades will not directly remove any core or potential habitat. Indirect impact to this species is possible, through altering soil microflora during earthworks, changing hydrology and nutrient availability. Mitigation measures consistent with 2020/8805 are proposed to be undertaken for the duplication of Midway Point and Sorell Causeways to provide an appropriate buffer development footprint, along with stormwater management measures. Refer to Attachment C, Figure 5, page 9 for tailed spider-orchid records and potential habitat.

The referral was considered against section 74A of the EPBCA. While there is a small overlap (see Attachment E, page 4) in the referral footprints at the eastern extent of 2020/8805 and western extent of this Project, as is necessary to tie in the proposed duplication of the Tasman Highway, the projects can proceed independently of one another with modifications to the design to tie into the existing highway (proposed four lanes into existing two lanes) should either project not proceed. The proposed action stands alone, and is not co-dependent, as the other projects identified under the SETS program are not required for the viability of the proposed action, nor are they dependent on each other for their implementation. The SETS projects are not required to be developed sequentially and have been progressed over separate, independent timeframes, dependant on Tasmanian and Australian Government funding and approvals. Similarly, the proposed action would be authorised under multiple permits from the Tasmanian and Local Governments and is not reliant on a single authorisation across all SETS projects.

Based on the limited MNES with potential for cumulative impact across SETS projects, and SETS program funding allocated project-by-project, separate assessment of SETS still projects provides sufficient evaluation of the broader impacts to all MNES across the program. The assessment of projects under separate processes do not impede the ability of DCCEEW to make an adequate consideration of significant impacts to MNES.

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Legislative overview

In addition to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA), the following Tasmanian legislation is relevant to the proposed action:

- *Environmental Management and Pollution Control Act 1994*
- *Land Use and Planning Approvals Act 1993*
- *Nature Conservation Act 2002*
- *Threatened Species Protection Act 1995*
- *Biosecurity Act 2019*

- *Aboriginal Heritage Act 1975*
- *Historic Heritage Act 1995*
- *Living Marine Resources Management Act 1995*
- *Water Management Act 1999; and*
- *Crown Lands Act 1976.*

Required Approvals

Commonwealth legislation

*Environment Protection and Biodiversity Conservation Act 1999 (*EPBCA)

The EPBCA sets out requirements for natural resource and environmental management in Australia and provides for the listing of threatened species, threatened ecological communities and key threatening processes. Under the EPBCA, an action will require approval from the Minister for the Environment if the action “has, will have, or is likely to have, a significant impact on a matter of national environmental significance (MNES)”.

The following two MNES trigger the EPBCA for this project:

- Threatened species - *Parvulastra vivipara*¸ Live-bearing Seastar (vulnerable); and
- Ramsar wetland – Pitt Water Orielton Lagoon.

Tasmanian legislation

Land Use and Planning Approvals Act 1993 (LUPAA)

Under the Tasmanian LUPAA a Discretionary Planning Permit Application, also known as a Development Application (DA) will be required to be submitted to both Clarence and Sorell Councils where the proposed works cannot meet an applicable planning exemption.

Under LUPAA, the project will be separated into three components, relative to their respective Council areas:

- Clarence City Council - widening and raising the Midway Point Causeway
- Sorell Council - construction of a new bridge to run parallel to McGees Bridge; and
- Sorell Council - widening and raising the Sorell Causeway.

Approval requirements under LUPAA will be determined by Clarence City and Sorell Councils.

Environmental Management and Pollution Control Act 1994 (EMPCA)

The EMPCA establishes the processes for assessment of activities considered to have the potential to cause environmental harm. Schedule 2 of EMPCA lists those activities (Level 2 activities), which may require assessment by the EPA. It should be noted that the Project is not a schedule 2 activity. However, the EPA may ‘call-in’ the project under Section 24(l) in the event it believes there is cause for potential environmental harm.

Nature Conservation Act 2002 (NCA)

The NCA regulates the conservation and protection of flora, fauna and geological diversity within Tasmania. It provides for conservation and protection of vegetation communities, conservation significant species within Tasmania, the declaration of national parks and reserve land, and the allocation of other conservation mechanisms, such as conservation covenants. The *Nature Conservation (Wildlife) Regulations 2021* regulate the taking, possession and trading of wildlife, wildlife products, hunting, wildlife exhibition and display and deer farming, and the associated permit requirements. Under the NCA, a Permit to Take 'products of wildlife' is required to 'knowingly take’ a product of wildlife (which includes nests, eggs and dead bodies).

The proposal will require approximately 8.27ha of the Pitt Water Nature Reserve declared under the NCA to be revoked to accommodate the northern alignment of the Sorell Causeway. Discussions between the Secretary of Department of State Growth and the Secretary of Natural Resources and Environment Tasmania have commenced to begin this process.

Threatened Species Protection Act 1995 (TSPA)

Threatened flora and fauna species, including threatened marine species, are protected under the TSPA. Under this Act, a permit is required to 'knowingly take' a threatened species which includes to kill, injure, catch, damage, destroy and collect, and to keep, trade in or process any specimen of a listed species. Any direct impacts to or relocation of threatened species, including live-bearing seastar will require a permit to take from Department of Natural Resources and Environment Tasmania (NRE Tas).

Biosecurity Act 2019

The *Biosecurity Act 2019* is the principal legislation concerned with the management of declared weeds in Tasmania. It consists of sections relating to the declaration, management, compliance requirements and powers of inspectors appointed under the Act. The project will be required to prepare a project specific Weed Management Plan in accordance with the *Biosecurity Act 2019* and the Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania, DPIPWE, March 2015.

Aboriginal Heritage Act 1975 (AHA)

The *Aboriginal Heritage Act 1975 (AHA)* provides the current legislative framework for managing and protecting Tasmania's Aboriginal heritage. Under the AHA it is an offence to destroy, damage, damage, deface, conceal or otherwise interfere with relics without a permit granted by the Minister. The project will require a permit to disturb under the AHA.

Historic Cultural Heritage Act 1995 (HCHA)

The *Historic Cultural Heritage Act 1995* (HCHA) was developed to ensure the historic places that are of importance to the whole of Tasmania are recognised, protected, and managed effectively. The Project area does contain a small area historic cultural heritage site (THR 1033) described in the Tasmanian Heritage Register.

Living Marine Resources Management Act 1995 (LMRMA)

The *Living Marine Resources Management Act 1995* (LMRMA) promotes the sustainable management of living marine resources in Tasmania through the provision of management plans relating to fish resources and the protection of marine habitats and species.

The LMRMA enables the protection of marine resource areas and habitats of significance including critical fish habitat. A license is needed to participate in any fishing activity including taking fish or use of fishing apparatus. A permit to take can be obtained for action that would contravene a provision of this Act, including scientific research, environmental monitoring and any impacts to marine resources that may arise as a result of the Project.

Crown Lands Act 1976

Approval to undertake works on Crown Land under the Crown Lands Act 1976 is required from the Department of Natural Resources and Environment Tasmania (Property Services, Parks and Wildlife) for works in land outside of the authority of Department of State Growth.

Water Management Act 1999

Previous work undertaken as part of concept design works identified that floodwater from Orielton Rivulet can increase water levels behind the Sorell causeway. As alterations to the Sorell Causeway and associated hydraulic structures are proposed, it is likely a Dam Permit and associated assessment will be required. The implications for the design of such an assessment are not known at this stage.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

State Growth has undertaken comprehensive community consultation over the past 7 years for the wider SETS projects including consultation of the proposed action, these activities are described in:

- Tasman Highway – Sorell to Hobart Corridor Plan (DSG, 2020) Available here: https://www.transport.tas.gov.au/__data/assets/pdf_file/0017/271034/Sorell_to_Hobart_Corridor_Plan_with_maps_of_prioritised_solutions_FINAL.pdf

- SETS consultation summary (DSG, 2019) Available here: https://www.transport.tas.gov.au/__data/assets/pdf_file/0011/218882/Consultation_summary_information_sheet_6_Sept_2019_003.pdf, and
- Duplication of Midway Point and Sorell Causeways – Public Consultation Report (DSG, 2022) Available here: https://www.transport.tas.gov.au/__data/assets/pdf_file/0003/461847/Duplication_of_Midway_Point_and_Sorell_-_Community_Consultation_and_Feedback_Report.pdf.

A project specific Stakeholder Communication and Engagement Plan (SCEP) 'South East Traffic Solution – Duplication of Midway Point and Sorell Causeways Stakeholder & Community Engagement Plan' is being maintained by the project team to outline the communication and stakeholder engagement activities that support the Project. Targeted engagement for design of the Project and minimising environmental impact has been undertaken with key stakeholders, including but not limited to, the indigenous community, the local community, industry and local government organisations.

In preparation of this referral, consultation has also been undertaken with representatives from the following:

- Department of Climate Change, Energy, the Environment and Water including pre-referral meetings
- Department of Natural Resources and Environment Tasmania (NRE Tas), Conservation Assessments and Wildlife Services (CAS)
- NRE Tas Parks and Wildlife Services (PWS)
- Environment and Protection Agency
- Aboriginal Heritage Tasmanian and local indigenous groups
- Service providers – TasNetworks, Taswater and Telstra
- The National Handfish Recovery Team including representatives from the Institute for Marine and Antarctic Studies (IMAS), University of Tasmania; and
- Adjoining landowners including Tasmanian Golf Club and the owner of the Milford property.

In addition, activities in preparation for temporary relocation of seastars during construction, should that be approved under the EPBCA, have been explained to the Oyster Tasmania CEO and its Pipe Clay Lagoon oyster growing leaseholders. This group's concerns have been acknowledged, addressed where possible and further engagement proposed where more consideration is required.

Future Consultation

Discussions with key stakeholders and the broader community will continue throughout design development and regulatory approval application preparation and assessment, including:

- Discussions with adjacent landowners and residents, so that their feedback can be considered as the design is developed. Ongoing consultation with NRE Tas regarding the proposed Pitt Water Nature Reserve partial revocation and permit applications associated with mitigating impacts on or removal of state level protected species and habitat
- Consultation with the Tasmanian Aboriginal community to identify options that avoid or minimise impacts to Aboriginal heritage
- Further consultation with the wider community, conducted, prior to finalising the design and construction tender documents. This will be used to inform the final design, address community concerns and will include physical and internet presentation, by a 'social pinpoint' interface, of:
    - design roll plans
    - predicted frequently asked questions and their answers; and
    - a background information poster.
        - The availability of this information will be advertised by poster, public notice, community group notifications, a web update and media release.
- This information dissemination will be supplemented with:
    - Two staffed community information sessions to provide an opportunity for interested community members to view the designs and provide feedback and comments in person with members of the project team in attendance to answer any questions. These information sessions are proposed to be held at the Cambridge Hall, the Midway Point Hall and the Sorell Memorial Hall

    - Following the staffed community information sessions, community members will be able to provide feedback by visiting a static information display at Sorell Council offices, City of Clarence offices, Midway Point Neighbourhood House or via the social pinpoint online interactive map
- Further engagement with Oysters Tasmania regarding their member's concerns for the proposed temporary relocation of Tasmanian live-bearing seastars to Pipe Clay Lagoon; and
- State Growth and the construction contractors collaborating to keep the community informed during construction.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	36388980563
Organisation name	Department of State Growth

Organisation address	4 Salamanca Place, Hobart 7000

Referring party details

Name	Keira Grundy
Job title	
Phone	0361663382
Email	keira.grundy@stategrowth.tas.gov.au
Address	

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	36388980563
Organisation name	Department of State Growth
Organisation address	7000 TAS

Person proposing to take the action details

Name	Elspeth Moroni
Job title	Acting General Manager State Roads
Phone	0455 437 863
Email	elspeth.moroni@stategrowth.tas.gov.au

Address	GPO Box 536, Hobart, TAS, 7001 Australia

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

State Growth has a proven track record of applying best practice environmental management for infrastructure projects throughout Tasmania. The following projects are a testimony to State Growth's practice:

- Current construction of the new Bridgewater Bridge
- Bass Highway, Ulverstone to Penguin Stages 1 and 2
- Construction of McGees Bridge at Sorell, including management of issues related to wetlands of international significance, within the PWOL Ramsar Site
- Bass Highway, Westbury-Hagley Bypass
- Brighton Bypass and
- Rokeby Main Road Upgrade.

State Growth has submitted the following EPBC referrals since 2002:

- Kingston Bypass Stage 2 and Algona Road Upgrades (2023/09751)
- Midland Highway (Campbell Town North Portion B) (2022/09424)
- New Bridgewater Bridge (2021/9114)
- Midland Highway (Campbell Town North Portion A)– Esk Main Road, Conara to south of Barton Road, Epping Forest (2021/9080)
- Tasman Highway – Hobart Airport to Sorell Causeway (2020/8805)
- Tasman Highway-Holyman Avenue intersection upgrade, near Hobart International Airport, Tasmania (2017/8054)
- Bridport Main Road Upgrade (2012/6515)
- Tarkine Forest Drive Road Upgrade (2011/6210)
- Rokeby Main Road Upgrades (2011/6061)
- Bagdad Bypass Project (2011/5982)
- The Tarkine Road Project (2009/5169)
- Brighton Bypass (2009/4762; 2009/4757)
- Brighton Transport Hub (2008/4537)
- Southern Outlet Bypass (2008/4445)
- Tea Tree Road Widening (2008/4344)
- Maclaines Creek Bridge (2007/3807)
- South Arm Highway Upgrade (2007/3526)
- Frankford Main Road Widening (2005/1963)
- Bass Highway Upgrade, Sisters Hills (2006/3007)
- Bridport Road Upgrade (2006/2553)
- Bass Highway Duplication (2003/1301); and

- North East Tasmanian Access Study (2003/1266).

There have been no past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against State Growth.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

State Growth is a Tasmanian Government Department and does not have an environmental policy or planning framework. It has developed a Corporate Plan which supports State Growth's values and builds on their achievements and sense of purpose as an organisation.

The Corporate Plan 2023-26, outlines the broad range of services State Growth provides to the Tasmanian community which are supported by the following five key objectives:

- Work with Tasmanian businesses, industries and communities to support sustainable growth and strategic workforce opportunities
- Contribute to Tasmania's brand as the best place in the country to live, work, visit, study, invest and raise a family
- Strategically develop our infrastructure, digital networks, transport and renewable energy systems to support industry, businesses and our community
- Enhance resilience and rapid recovery from economic, environmental and social shocks and stresses across industry, businesses and our community; and
- Continue to build our organisational capacity by working collaboratively and developing our people, safety, culture and systems, including our use of technology.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	36388980563
Organisation name	Department of State Growth
Organisation address	7000 TAS

Proposed designated proponent details

Name	Elspeth Moroni
Job title	Acting General Manager State Roads

Phone	0455 437 863
Email	elspeth.moroni@stategrowth.tas.gov.au
Address	GPO Box 536, Hobart, TAS, 7001 Australia

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	36388980563
Organisation name	Department of State Growth
Organisation address	4 Salamanca Place, Hobart 7000
Representative's name	Keira Grundy
Representative's job title	
Phone	0361663382
Email	keira.grundy@stategrowth.tas.gov.au
Address	

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	36388980563
Organisation name	Department of State Growth
Organisation address	7000 TAS
Representative's name	Elspeth Moroni
Representative's job title	Acting General Manager State Roads
Phone	0455 437 863
Email	elspeth.moroni@stategrowth.tas.gov.au

Address	GPO Box 536, Hobart, TAS, 7001 Australia

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

1.4 Payment details: Payment allocation

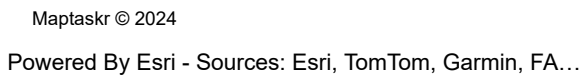
1.4.11 Who would you like to allocate as the entity responsible for payment? *

Referring party

2. Location

2.1 Project footprint

Project area (36.18 Ha)
Disturbance footprint (36.18 Ha)



2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Midway Point Causeway and Sorell Causeway

2.2.2 Where is the primary jurisdiction of the proposed action? *

Tasmania

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The majority of the proposed action occurs on Crown Land under the *Crown Lands Act 1976*. Refer to Attachment A, Table 1, page 7 and Figure 4, page 8. For the purposes of the *Crown Lands Act 1976*, land includes land covered by the sea or other waters. Land outside the existing road reserve (Crown land, Department of State Growth) is unallocated Crown land (Department of Natural Resources and Environment Tasmania) or private land. All private land will be acquired by the Crown under the *Land Acquisitions Act 1993* prior to commencement of the proposed action. All unallocated Crown land will be set aside as road (Department of State Growth) under the *Crown Lands Act 1976*.

Orielton Lagoon, to the north of Sorell Causeway, forms part of the Pitt Water Nature Reserve which is protected under the *Nature Conservation Act 2002*. A portion of the reserve will be required to be revoked and set aside as road under section 8 of the *Crown Lands Act 1976*.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The proposed project area is about 20 km east of Hobart, spanning land and marine environments along two sections of the Tasman Highway, divided by Midway Point. The western end, near Midway Point Causeway, is around 10 km from Hobart, while the eastern end, near Sorell Causeway, is roughly 1 km west of Sorell. The total project length is approximately 4.5 km, excluding the 900 m section at Midway Point (see Figures 1, 3, and 4 in Attachment A).

The causeways are zoned as Utilities under the Clarence and Sorell Local Provisions Schedules in the Tasmanian Planning Scheme. Adjacent areas within Pitt Water and Orielton Lagoon are zoned Environmental Management, with Rural zoning to the southwest of Midway Point Causeway and southeast of Sorell Causeway, and Recreation zoning northwest of Midway Point Causeway, including the Tasmanian Golf Club (see Figures 5 and 6, Attachment A).

Terrestrial environment

The terrestrial environment is a modified landscape consisting of the existing highway, paved surfaces, and mowed road verges. North Barker Ecosystem Services (NBES) conducted various surveys between 2018 and 2023, as detailed in the Terrestrial Natural Values Assessment (Terrestrial NVA, 2024) (Attachment G).

Due to multiple studies by NBES over the past seven years and changes in the project area, the Terrestrial NVA (Attachment G) covers a broader area than the Terrestrial MNES report (Attachment C) and includes state-listed species, causing variation in species counts. This referral focuses on species listed in the MNES report, with some general species information from the Terrestrial NVA.

Vegetation communities were mapped per TASVEG 4.0. The NBES assessment covered 44 ha, including 2 ha of native vegetation, exceeding the project area to accommodate potential changes in scope.

The following vegetation types were recorded in the study area (Attachment G, Figure 5, pp 9):

- *Eucalyptus viminalis – Eucalyptus globulus* coastal forest (DVC) – 1.7 ha
- Succulent saline herbland (ASS) – 0.003 ha
- *Allocasuarina verticillata* forest (NAV) – 0.36 ha
- Regenerating cleared land (FRG)
- Extra-urban miscellaneous (FUM); and
- Agricultural land (FAG).

The land-based component of the proposed action includes small areas of native vegetation. A small patch of largely modified DVC in poor condition is partially captured within the Project area, at the western approach to the Midway Point Causeway, as well as a small area of NAV also in relatively poor condition.

The eastern approach of the Midway Point Causeway contains no native vegetation, as this area occurs within the residential suburb of Midway Point.

The eastern approach to the Sorell Causeway, and the link to the Sorell Southern Bypass, is an area of agricultural land. The western approach of the Sorell Causeway contains a small area of succulent saline herbland.

Both causeways have been classed as Extra-urban miscellaneous (FUM) as they are modified lands colonised by a combination of native and introduced species.

The vegetation types are further discussed in Section 3.2 of this referral.

The project area includes areas of small native remnant habitats which experience a high level of disturbance or exposure to edge effects. Though this means threatened flora species are unlikely to be found, some species are tolerant of tough conditions or respond positively to disturbance.

No flora listed species under the EPBCA have been recorded from the area or are expected to be impacted. One flora species listed under the TSPA, Cut leaf New Holland daisy (*Vittadinia mueller*) has been recorded in small numbers at the eastern end of the Sorell Causeway. Refer to section 3.2 for further detail on flora species.

Surveys recorded 114 introduced plants within the project area, including nine declared weeds under the *Biosecurity Act 2019.*

According to NBES, 2024 MNES Impact Assessment (Attachment C), 73 listed fauna species have been recorded as occurring or having the potential to occur within 5 km of the proposed development. Of these, 31 fauna species have no likelihood of occurrence, 30 species have the potential to occur but have no likely impacts associated with the proposed action. All species are discussed further in Appendix A, Attachment C. The remaining 12 fauna species potentially impacted by the proposed action are shorebirds associated with PWOL.

Marine Environment

A number of marine surveys have been undertaken in the area between 2020 and 2023, including reports from Birdlife Tasmanian, Ecomarine, Elgin Associates and Stantec. Refer to Section 1.5, page 10 (potential environmental impacts) Attachment A for the full list.

The Midway Point Causeway and the Sorell Causeway are located within the Pitt Water-Orielton Lagoon (PWOL) Ramsar site and the Sorell Causeway borders the Pitt Water Nature Reserve (PWNR).

Habitat surveys (Stantec 2024, see Attachment H) found that intertidal and subtidal habitats in the Project Area are typical of artificial shorelines and subtidal soft substrata in Tasmania. The intertidal habitat of both Midway Point Causeway and Sorell Causeway is dominated by mobile gastropods, while subtidal habitat is dominated by silty soft substrata, shell grit and sparse macroalgae. Smaller patches of seagrass and saltmarsh were also found in the Sorell Causeway Project area.

Elevated nutrients have been recorded in water and sediment samples in the PWOL estuary, attributed to diffuse source pollution in the catchment. There is also a high probability of Potential Acid Sulfate Soils (PASS) and low concentrations of toxic dinoflagellates in sediments within the Project Area. PWOL is considered relatively free from introduced marine species apart from the Pacific oyster, and Pacific Oyster Mortality Syndrome (POMS) is also known to occur in the area.

There is limited information available on the diversity of fish and benthic infauna species within the PWOL estuary however nine fish species were recorded using baited remote underwater videos (BRUVs), including one school shark (*Galeorhinus galeus*), a species for which PWOL is an important nursery area. One bigbelly seahorse (*Hippocampus abdominalis*) was observed during BRUVs, which is a listed marine species under the EPBC Act.

One big-belly seahorse (*Hippocampus abdominalis*) was sighted during targeted surveys of McGees Bridge pylons and associated benthic habitat. No seahorses were seen during surveys of seagrass in the Sorell Causeway Project Area. Silver gulls (*Chroicocephalus novaehollandiae*) were observed nesting on the southern revetment of Sorell Causeway during intertidal habitat surveys.

A number of areas of conservation significance also occur in the Project Area, including the PWOL Ramsar site, Pitt Water Nature Reserve and a shark refuge area (SRA). Several oyster leases and fisheries also operate in PWOL.

Both Midway Point and Sorell Causeways are home to the threatened live-bearing seastar (*Parvulstra vivipara)* (Attachment L, Section 3).

<u>Midway Point Causeway</u>

The habitat along the northern side of the Midway Point Causeway includes a 500 m sandstone wall, with large dolerite boulders and cobbles in other areas. On the southern side, dolerite boulders form a steep 3 m rocky shoreline that meets the intertidal zone. Vegetation is sparse on both sides. Sandy beaches appear at each end of the causeway, except for the southern side of the eastern abutment, which is only dolerite fill. These beaches typically have sandy mud flats extending into the intertidal zone.

<u>Sorell Causeway</u>

The Sorell Causeway is made of rock fill, including dolerite, sandstone and basalt. Vegetation is sparse, limited to grasses, weeds along the road verge, and occasional salt-tolerant species. The northern embankment is steep and rocky, composed of dolerite fill from small boulders to gravel, with small beaches at each end supporting saltmarsh habitats.

<u>Pitt Water - Orielton Lagoon Ramsar site</u>

The Pitt Water – Orielton Lagoon Ramsar site (PWOL) is a tidal saltwater lagoon formed by the near closure of its main tributary, the Coal River, by the Seven Mile Beach spit. Both the Midway Point and Sorell Causeways are located within PWOL.

PWOL's catchment area covers approximately 890 km², with 620 km² being the Coal River catchment. Smaller catchments feed into Orielton Rivulet, Sorell Rivulet, and Iron Creek. Surrounded by agricultural land and small towns, PWOL has been influenced by human activity since the 1800s, creating a highly modified system (Attachment O).

McGees Bridge does not restrict the tide as it propagates into and out of Pit Water. Orielton Lagoon's tidal exchange, restricted to two narrow culverts through the Sorell Causeway, results in a shallow lagoon with an average depth of 1.3 m across its 270 ha area.

PWOL, listed under the Ramsar Convention in 1982, covers 3,334 ha, extending from Pitt Water Bluff to Shellfish Point, north to Orielton Rivulet and into a portion of the Coal River and Duckhole Rivulet and includes all areas below the highest astronomical tide (HAT), neighbouring coastal reserves, and some areas of private property. Most of the wetland is fringed by saltmarsh vegetation and rocky shores. The Ramsar site also includes the Pitt Water Nature Reserve, which spans approximately 826.3 ha across five sections.

PWOL provides essential habitats for globally threatened coastal and migratory birds, such as the eastern curlew, bar-tailed godwit, common greenshank, curlew sandpiper, and red-necked stint. Notably, it supports:

- 26 bird species under the Japan-Australia Migratory Bird Agreement (JAMBA)
- 20 bird species under the China-Australia Migratory Bird Agreement (CAMBA) and the Republic of Korean Migratory Bird Agreement (ROKAMBA)

Orielton Lagoon is a recognised shorebird feeding and resting site on the East Asian – Australasian Flyway Reserve Network, also providing year-round habitat for Tasmanian resident shorebirds and important vegetation and threatened species. See Section 3.2 of this referral for more details.

3.1.2 Describe any existing or proposed uses for the project area.

The existing use of the project area is largely for transport infrastructure with both causeways also and McGees Bridge used by vehicle drivers, passengers, pedestrians and cyclists and freight transit. The bridge is also used for fishing. The area has been used as a transport corridor since construction of the causeways in the 1870s prior to the declaration of the area as the Pitt Water-Orielton Lagoon Ramsar site.

Land use at the western approach to the Midway Point Causeway is native vegetation, in regeneration after realignment of the existing highway. The eastern approach to the Midway Point Causeway is an old road reserve, largely used for parking for people who fish or by other recreational users.

The western approach to the Sorell Causeway is largely road reserve, with areas of native vegetation around the coast. The eastern approach to the Sorell Causeway crosses areas of agricultural land, largely used as an attenuation buffer from a poultry farm and processing factory.

The broader project area is surrounded by agricultural land and small towns, with surrounding lands cleared for agriculture in the 1800s.

The project area is proposed for use as expanded existing transport infrastructure and continuance of existing uses where the proposed larger transport asset does not change the use.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The Pitt Water Nature Reserve sits within the project area. The Reserve covers approximately 826.3 ha and includes five separate sections that include terrestrial, intertidal and marine areas, refer Attachment A, Figure 10:

- Orielton Lagoon and some land immediately adjacent to the lagoon

- A section of Barilla Bay in the west of Pitt Water
- The northern section of Pitt Water to the high-water mark, where the Coal River discharges into Pitt Water
- Woody Island to the low water mark; and
- Barren Island to the low water mark.

The only area of the Pitt Water Nature Reserve that is adjacent to the proposed action is Orielton Lagoon. All other sections of the Reserve are well over 1 km from the Project area. The surrounding land is mostly privately owned or narrow coastal public reserves. The private land is used for agricultural, residential, industrial and recreation use (Parks and Wildlife, 2013).

Most of the Reserve lies within the 3,334 ha Pitt Water-Orielton Lagoon (PWOL) Ramsar site. Barren Island and Woody Island sit outside the Ramsar site, being over 1 km and 2 km respectively from the Project area.

Refer to section 3.1.1 above and Attachment A, Section 2.1.5 for general information on the PWOL.

There are no additional natural values identified within or in the vicinity of the Project that are not included in other sections of this referral.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The finished surface levels proposed will provide for the 100 year predicted sea level. The Midway Point Causeway will be raised from its current height of approximately 2.5 m (all figures in AHD) to a new crest level of 4.2 m, and the Sorell Causeway will be raised from 2.5 m to 3.6 m.

A second bridge is proposed to be installed next to the existing bridge to account for the duplication. The nearby footings of a previous, demolished bridge will remain undisturbed. The new bridge will include 17 piers, with two piles at each pier that are driven 25 - 30 m deep into the seabed.

It is proposed that the second bridge is constructed with a deck level of 4.25 m above the average high-water mark on the road centreline at the western end rising to 6.5 m at the eastern end. This matches the new causeway height at the eastern end and the gradient on the existing bridge albeit at a level approximately 1.3 m higher than the existing bridge. A cantilevered shared path is proposed for the northern side of the second bridge. The existing bridge has a deck level of 2.98 m at the western end (refer Attachment M).

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Numerous flora and fauna surveys have been undertaken within and in the vicinity of the Project area since 2018. As a result, flora and fauna in the Project area have been extensively studied and documented. Refer to Section 1, page 10 Attachment A for a list of studies.

Due to the number of natural values studies undertaken by NBES over the past seven years, and the changes to the proposed Project area over this time, it is noted that the Terrestrial NVA report covers a broader area than the MNES report, as well as including state listed species, hence numbers of species identified vary between reports. The number of species included in this referral is therefore focused on the MNES report, although some general information on species has also been drawn from the Terrestrial NVA.

Due to the size of the project as well as the extent and diversity of existing environment, flora and fauna have been separated into terrestrial and marine environments. A summary is provided below, with additional information provided in Section 2, Attachment A.

Terrestrial Natural Values - Flora

North Barker Ecosystem Services (NBES) prepared a Terrestrial Natural Values Assessment (NBES, 2024), based on numerous surveys since the Project's inception. A summary in relation to terrestrial flora and fauna species is provided below, refer to Attachment G for the full report. Native vegetation is described in the next section (3.2.2).

A significant impact assessment was also prepared by NBES, refer to Attachment C for the full report.

The project area includes small native remnant habitats which experience a high level of disturbance and exposure to edge effects. Three flora species listed in the EPBCA were identified as potentially occurring within the Project area, with one flora species listed in the TSPA identified as occurring within the Project area. Refer to Section 2, page 14, Attachment A for additional information.

A total of 12 threatened flora species have been recorded as occurring or having the potential to occur within 5 km of the Project area. Of these, 10 threatened flora species have no or very low likelihood of occurrence; these are discussed in Appendix A, Attachment C.

The remaining 2 listed species most likely to occur in the vicinity are:

- *Caladenia caudata*, tailed spider-orchid (Vulnerable); and
- *Caladenia saggicola*, sagg spider-orchid (Critically Endangered).

Both species, as well as *Prasophyllum milfordense,* Milford leek-orchid, (Critically Endangered) have been recorded on the Milford Property, south-west of the Project area. Targeted surveys for threatened orchids species have been undertaken on the Milford property annually since 2018 extending back to 1994, to inform mapping of critical habitat (Attachment C, Figure 7) which is more than 150m south of the Project area. No threatened orchid species were recorded in the Project area during orchid surveys in 2023 by NBES.

Further information on these species is provided in Section 2, page 12 and 13, Attachment A.

Terrestrial Natural Values – Fauna

A total of 13 threatened fauna species have been recorded within 500 m of the study area, and 36 within 5 km of the study area. These species exclude marine and aquatic species, which are covered in the Marine NVA, prepared by Stantec Australia Pty Ltd (refer Attachment H).

Four fauna species (**mammals**) listed in the EPBCA were identified as potentially occurring within the Project area, including:

- *Dasyurus maculatus*, spotted-tail quoll (Vulnerable)
- *Dasyurus viverrinus*, eastern quoll (Endangered)
- *Perameles gunnii gunnii,* Eastern barred bandicoot (Vulnerable); and
- Sarcophilus harrisii, Tasmanian devil (Endangered).

The Project area contains highly modified environments due to the existing highway and urban development. Poor quality DVC at the western extent of the project provides some potential refuge habitat for transient mammals however given higher quality habitat in the immediate vicinity, the likelihood of occurrence within the Project area is considered low (Attachment C). No evidence of dens was recorded during targeted survey (Attachment C).

Further information on these species is provided in Section 2, page 14, Attachment A.

Terrestrial Natural Values – Avian fauna

Bird species are addressed in functional groups; shorebirds (migratory and residents), seabirds, waterfowl and woodland birds. Refer to Section 2, page 15, Attachment A for further information, as well as Attachment G (NBES NVA) and Attachment C (NBES MNES SIA).

Shorebirds

Threatened shorebirds that are regular migrants to PWOL include:

- *Numenius madagascariensis*, eastern curlew (Critically Endangered, Migratory, Marine), Figure 11, page 31 Attachment G
- *Limosa lapponica baueri*, bar-tailed godwit (western Alaskan) (Vulnerable, Migratory, Marine) Figure 12, page 32 Attachment G; and
- *Calidris canutus*, red knot (Endangered, Migratory, Marine) Figure 13, page 33 Attachment G.

Migratory and marine shorebirds that are regular migrants to PWOL include:

- *Arenaria interpres*, ruddy turnstone (Migratory, Marine)
- *Calidris acuminata*, sharp-tailed sandpiper (Migratory, Marine)
- *Calidris ruficollis*, red-necked stint (Migratory, Marine)
- *Charadrius bicinctus*, double-banded plover (Migratory, Marine)
- *Gallinago hardwickii*, Latham's snipe (Migratory, Marine)
- *Numenius phaeopus*, whimbrel (Migratory, Marine)
- *Pluvialis fulva*, Pacific golden plover (Migratory, Marine); and
- *Tringa nebularia*, common greenshank (Migratory, Marine)

Resident shorebirds of PWOL include:

- *Charadrius ruficapillus*, red-capped plover (Marine)

Eighteen **seabirds** are known to utilise PWOL (refer Attachment C, Section 2.6.3 and Attachment G, Appendix C), including gulls, cormorants, terns, shearwaters, pelicans and gannets. Some species are year-round residents (e.g. silver gulls, *Chroicocephalus novaehollandiae*), while others are migratory and spend only a short time at PWOL or pass through.

Twenty-one species of **waterfowl** are known from PWOL (refer Attachment C, Section 2.6.3 and Attachment G, Appendix C). In general, waterfowl numbers at PWOL have been steadily declining since the 1980s.

Sixty-eight species of **woodland** birds are known to occur from PWOL (refer Attachment G, Appendix C). The only values that woodland birds may rely on within the study area are hollow bearing trees. Trees with a diameter at breast height (DBH) of more than 70 cm are likely to contain hollows, and are, therefore, considered potential habitat trees for woodland birds including three threatened species:

- *Lathamus discolor* (swift parrot), listed as Critically Endangered (EPCA) and endangered (TSPA)
- *Neophema chrysostoma* (blue-winged parrot), listed as Vulnerable (EPCA); and
- *Tyto novaehollandiae* (Tasmanian masked owl), listed as Vulnerable (EPCA) and endangered (TSPA).

Refer to Section 2, pages 19, 20 and 21, Attachment A for further information on threatened avian fauna.

Marine – Natural Values Assessment

The latest marine natural values assessment was prepared by Stantec. Refer to Attachment H for the full report. A summary is provided below, and additional information is provided in Section 2, pages 21 through 27, Attachment A.

The assessment found 13 threatened species and 15 migratory species were likely to occur in the Project area. These included several shorebird species, Australian grayling, red handfish and the live-bearing seastar, with a number of areas of conservation significance also occurring, including the PWOL Ramsar site, PWNR and a shark refuge area (SRA). It is noted that shorebird species were covered by NBES in Terrestrial Natural Values - fauna section above, and hence are not replicated here.

The Project area is known to include or has the potential to include habitat of the following threatened species:

- *Parvulastra vivipara* (Live-bearing seastar), listed as Vulnerable (EPBCA) and Endangered (TSPA). Populations of this species occur on the north-western side of Midway Point Causeway and the southern side of the Sorell Causeway
- *Prototroctes maraena* (Australian grayling), listed as Vulnerable (EPBCA and TSPA). The waterways surrounding the project area provides appropriate habitat for some of the life stages of this species and

according to the Natural Values Atlas 6 potential was reported within a 500m range boundary. The species has not recorded during the surveys for this project; and

- *Thymichthys politus* (Red handfish), listed as Critically Endangered (EPBCA) and endangered (TSPA). The red handfish is not known to occur in the Project area, has not previously been recorded in PWOL, nor recorded during the surveys for this project, with the closest known habitat approximately 12 kms to the south.

Advice was sought from the National Handfish Recovery Team and the NRE Tasmania (Conservation Assessments Branch) who identified *Brachionichtys hirsutus* (spotted handfish) listed as Critically Endangered (EPBCA) and Endangered (TSPA) as having the potential to occur due to suitable habitat features within the project-. This species has not been previously recorded in PWOL with the closest record approximately over 12km from the project area.

Targeted surveys at Midway Point Causeway and McGees Bridge for red handfish and spotted handfish did not record the presence of either species (Attachment N). Further information on these species is provided in Section 2, page 21 through 23, Attachment A.

All other threatened flora and fauna, and migratory species identified by the Protected Matters Search Tool (PMST) output as potentially relevant to the Project area are considered unlikely to occur. Based on the above, further information for relevant MNES are described in Section 4.1.4 of this referral.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Refer to Attachment C for the Terrestrial Natural Values Assessment (NBES, 2024). A summary is provided below.

Native vegetation communities

Three native vegetation communities (TASVEG 4) have been recorded within the study area (refer Figure 5, Attachment G):

- *Eucalyptus viminalis - E. globulus coastal forest* (DVC)
- Succulent saline herbland (ASS); and
- *Allocasuarina verticillata* forest (NAV).

Eucalyptus viminalis - E. globulus coastal forest (DVC) occurs towards the western end of the Project area, which is continuous with larger, higher quality patches located outside of the Project area. These total 1.7 ha and span either side of the Tasman Highway, west of Midway Point Causeway. One remnant patch (1.4 ha) is within the golf course and the adjacent roadside, north of the Tasman Highway. This patch is the larger and better quality of the two patches within the Project area, with native vegetation dominating the understory and patches of grassy woodland. Another small patch exists on the southern roadside reserve bordering the property Milford which supports high quality DVC. This portion within the roadside is impacted by edge effects and has a high number of weeds and introduced grasses in the understory. However, there are small areas of open native understory where greenhood orchids and other wildflowers were observed, though no listed threatened orchids plants have been sighted and the habitat suitability for these orchids is low.

The canopy is dominated by *Eucalyptus viminalis*, many of which are mature trees up to 15-20 m and occasionally with a DBH of 70 to >100 cm. The understory is dominated by small trees and the shrub layer is dominated by sea berry saltbush (*Rhagodia candolleana*) at the golf course, and sparsely elsewhere. The woody weed African boxthorn (*Lycium ferocissimum*) occurs in both sites, as well as numerous grassy and herbaceous weeds and garden escapes such as gazania (Gazania sp.) DVC is listed as threatened under the Tasmanian *Nature Conservation Act 2002* and is not listed under the EPBCA.

There is a small 0.36 ha patch of this *Allocasuarina verticillata* forest (NAV) on the coastal cliff and cliff top on the western approach to Midway Point Causeway at Pittwater Bluff within the Project area. *Allocasuarina verticillata* is dominant and accompanied by *Dodonaea viscosa*, *Acacia mearnsii* and *Coprosma quadrifida*. *Rhagodia candolleana* is present in the understory in dense patches, especially below the cliff, as is the weed African boxthorn. *Rytidosperma* and *Austrostipa* species dominate the ground layer, as well as introduced grasses such as *Dactylis glomerata* and *Ehrharta erecta* which are especially abundant at the roadside edge of the patch.

NAV is not listed as a threatened community under State or Commonwealth legislation.

A patch (0.009 ha) of succulent saline herbland (ASS) occurs on north side of the western approach to the Sorell Causeway at Midway Point. It has formed in the lee of the causeway where sediment has accumulated. Only a small margin of this patch (about 0.003 ha) occurs within the Project area.

Whilst succulent saline herbland (ASS) is not specifically listed on the NCA, ASS can form part of the EPBC Act-listed community 'subtropical and temperate coastal saltmarsh' where it meets the condition criteria. The total patch size is 0.09ha, which is under the 0.1ha patch size threshold for this community to meet the condition criteria.

Non-native vegetation

There are three small patches of regenerating cleared land (FRG) in the Project area. The main patch is south of the Tasman Highway at the eastern approach to Midway Point Causeway. This area has an overstory of *Eucalyptus viminalis*, with occasional mature trees (up to 15 m) as well as young trees (< 5 m).

Two smaller areas of FRG have been identified on the Sorell side of the Sorell Causeway. These are on the boundary of modified land (Extra-urban miscellaneous – FUM), in areas of mostly unmanaged land with a significant number of native species colonising.

Both causeways have been classed as FUM, as they are modified lands colonised by a combination of native and introduced species. Native species include salt tolerant herbs and grasses, and introduced species include weeds and garden escapees.

Non-native vegetation types exist within the Project area on roadsides and surrounding paddocks east of the Sorell Causeway. These areas support introduced pasture and weedy grass species.

Modified lands that do not support native biodiversity values of conservation significance are not recognised as threatened under State or Commonwealth legislation.

Weeds

NBES surveys recorded 114 introduced plant species within the survey area, including 9 declared weeds, refer Table 5 and Figure 8, Figure 9 and Figure 10 of Attachment G.

Five threatened ecological communities have been recorded as occurring or having the potential to occur within 5 km of the Project area. All five threatened ecological communities have no or very low likelihood of occurrence; these are discussed in Appendix A, Attachment C.

Marine Flora

Refer to Attachment H for the Marine Natural Values Assessment (Stantec, 2024), a summary of which is provided below.

The subtidal habitat within the Project Area is primarily comprised of sand and silt along with smaller areas of seagrass and reef. Artificial rock revetment, bridge pylons and culverts make up the majority of the intertidal zone along the causeways.

There are no Marine Threatened Ecological Communities in the Project area.

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

A Historic Assessment Report for the Tasman Highway South East Traffic Solution was undertaken by Cultural Heritage Management Australia (CHMA) in 2020. Refer to Attachment I. This Assessment Report covered a large study area (9 km in length) between the Hobart Airport roundabout (now a grade-separated interchange) and Sorell.

Four registered historic features were located within the Tasman Highway corridor. Two of these properties, Llanherne and Milford, are listed on the Tasmanian Heritage Register and have been assessed as being of State significance. Two remaining properties, Kidbrook and Belmont, are listed as Heritage Places under the Tasmanian Planning Scheme. Kidbrook and Belmont properties are located well outside the Project area.

No Commonwealth Heritage places have been identified within the Project area.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

The location of the Project area is within the Oyster Bay Nation, which was comprised of at least 10 clans. The Project area falls in an area controlled by the Moomairremener people who occupied the areas around Pitt Water and Risdon.

An Aboriginal Cultural Heritage Assessment for the Tasman Highway South East Traffic Solution was undertaken by CHMA in 2018. Refer to Attachment J (this report contains sensitive information and cannot be published). This Assessment Report covered a large study area (9 km in length) between the Hobart Airport roundabout (now a grade-separated interchange) and Sorell. A summary of the findings is provided below.

The desktop assessment identified nine sites registered on the Aboriginal Heritage Register, that were within the study area corridor, including isolated artefacts, artefact scatter and shell middens. In relation to the Project Area, there were two registered sites.

A field survey identified eight Aboriginal heritage sites in the broader study area. Two of these sites correlate with previously recorded sites, with the remaining six sites all new records. One of these new sites was recorded in the Project area.

Site surveys noted that disturbance and modification by previous road works and other activities appears to have resulted in the destruction of large parts of these sites. Four sites were listed in the vicinity of the Project area, with three of those not impacted by the project. One site is intersected by the Tasman Highway at the point it connects with the Sorell Causeway. State Growth are working with Aboriginal Heritage Tasmania to minimise and mitigate impacts. Concept design indicates that a permit will be required under the *Aboriginal Heritage Act 1975* to support the works.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The Project area sits within the South-East Coast Catchments, with the largest catchments in the Project area; Coal River, Iron Creek, Orielton Rivulet and Duckhole Rivulet. These catchments flow into Pitt Water and Orielton Lagoon along with smaller creeks and streams. Pitt Water-Orielton Lagoon is recognised as internally significant

under the Convention on Wetlands (Ramsar Convention). The Coal River catchment is one of the driest areas in Tasmania, with the average rainfall in the Pitt Water catchment of 631 mm per annum (Attachment H, Section 1.2.3, p.3)

Water quality in the Project area is impacted by a variety of human activities in the region, including vegetation clearance, soil erosion, stock access to streams, fertiliser run-off, septic tank leachate and urban pollution from sewage discharge and stormwater runoff (Attachment H, Section 1.2.3, p.3).

Pitt Water is a mainly shallow estuary formed by the near closure of the mouth of the Coal River by a mid-bay spit at Seven Mile Beach. Orielton Lagoon was once an open shallow bay of the Pitt Water estuary. The PWOL system is now bisected by the causeways.

The waters are predominantly marine in character. Upper Pitt Water is a well flushed estuarine system, while Orielton Lagoon is much restricted in its tidal movement (Attachment O, Section 2.3, p.18).

The hydrology of Pitt Water as summarised by Dunn, 2012 (Attachment O, Section 3.2.1, p.45), includes:

- Low but variable flows enter the estuary from the Coal River;
- Periods of low to nil freshwater input extend from December to April, higher flows in winter months;
- Flows are reliant on rainfall, no data on groundwater contribution though this is thought to be significant (<50%);
- Peak freshwater flow is limited until the major dam spills;
- Massive tidal flow and high exchange rate in marine waters; and
- Tidal range in the main body of the estuary of 1.4 m, influenced in upper reaches by the causeways, particularly in Orielton Lagoon.

Orielton Lagoon has been severely impacted by human intervention through tidal movements, agricultural runoff and sewage disposal. According to Dunn, 2012 (Attachment O, Section 3.2.2, p.48), in 1982, at the time of listing, the hydrology of Orielton Lagoon was controlled by:

- Limited tidal movement and exchange of marine waters through culverts at the centre of the causeway, set to average high tide mark
- Ephemeral flows from Orielton Rivulet and Frogmore Creek, with occasional flood flows
- Direct rainfall into the lagoon
- Evaporation over the high surface-volume ratio; and
- Seepage below the causeway.

The catchments have been subject to clearance and development for agriculture while residential settlements have grown at Midway Point and Sorell. Intensive cultivation demanding use of fertilizers and water for irrigation has led to increase inputs of sediments and nutrients. Flow of the river systems have been reduced and seasonal patterns of flow modified. Stormwater and effluents from STPs contributed to increased nutrient levels and at times, high coliform levels.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	Yes	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No world heritage properties are located within 5km of the project area and hence will not be impacted.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No national heritage properties within 5km of the project area and hence will not be impacted.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
Yes		Pitt Water-Orielton Lagoon

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.3.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

It is noted that the potential impacts of the proposed action are, at this stage of the project, general in nature as they are based on a concept design with a large area of potential disturbance of 20 m, surrounding the concept design. Further assessment of potential impacts will be required following the preliminary and detailed designs, which will allow scrutiny of potential impacts at a finer detail relating to the actual design and construction methodologies proposed**.**

The Project area falls within the PWOL Ramsar site. PWOL was listed under the Ramsar convention largely due to its importance for biological diversity and is listed as Group B – a site of international importance for conserving biological diversity. The PWOL site meets five criteria for listing under the Ramsar convention (Attachment H, Section 3.1.7, p. 43 and Attachment O):

- Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities
- Criterion 3: A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region
- Criterion 4: A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions
- Criterion 8: A wetland should be considered internationally important if it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend; and
- Criterion 9: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species.

Potential impacts to marine natural values and hence impact to the PWOL from the proposed action are outlined, as follows:

- Direct habitat disturbance from the construction footprint of approximately 10.5 ha
- Localised indirect habitat disturbance from construction vessels
- Localised and temporary water quality degradation through sediment disturbance and mobilisation during construction activities
- Temporary or permanent hydrological alterations as a result of construction activities
- Alterations to fish passage through construction activities
- Introduction and spread of pests and diseases associated with the increase in vessels and equipment utilising the area; and
- Temporary increased noise from construction.

These impacts are discussed in further detail in Attachment A, Section 3, pages 28 through 42 and Attachment D.

Once operational the project is not expected to have a significant increase in impacts from current activities. The project however is expected to include a number of potential benefits to PWOL including:

- Hydrological alterations to increase tidal flushing of Orielton Lagoon;
- Increased extent of intertidal habitat suitable for important species including the threated live bearing-seastar; and
- Improved (best practice) stormwater treatment and water quality run off into PWOL.

These impacts are discussed in further detail in Attachment A, Section 3, page 23-25, Attachment D and Attachment L.

4.1.3.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.3.6 Describe why you do not consider this to be a Significant Impact. *

Impacts of the proposed action were reviewed against the Ramsar Convention (Ramsar Wetland) listing criteria and are provided in Attachment A, Section 3, pages 25 through 34. A summary is provided below.

*1. Areas of the wetland being destroyed or substantially modifie*d

Duplication works will result in the loss of intertidal and sub-tidal habitat immediately surrounding the causeways (10.5 ha of a total 3,334 ha, or 0.3%), within PWOL Ramsar site.

The loss of artificial structures that constitute important habitat for live-bearing seastar and shorebirds will be rectified as new structures develop into habitat over time. Extension of these structures to mitigate sea level rise is also expected to 'future proof' this habitat.

Although a net loss of natural habitat is expected to occur as a consequence of the proposed action, similar natural habitats to those in the construction footprint are available throughout PWOL, and the area of impact is small (0.3% of PWOL) in relation to the size of the Ramsar site, the impact is therefore not considered significant.

2. A substantial and measurable change in the hydrological regime of the wetland, for example, a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland

According to Dunn (2012) (Attachment O) the major threats to PWOL hydrology are climate change and the altered freshwater inputs into the estuary system. Freshwater inputs into PWOL have been historically modified and will not be further impacted by the proposed action.

Based on the current concept design, with no additional culverts proposed, tidal hydrology of PWOL would be expected to remain stable. It is therefore highly unlikely that the proposed works will cause a substantial or measurable change in the hydrological regime of PWOL.

3.The habitat or lifecycle of native species, including invertebrate fauna and fish species, dependent upon the wetland being seriously affected

PWOL is home to a diverse range of habitats that are critical to the survival of many native species at some point in their lifecycles (Att D, Section 3.3.1, p.37).

Impacts to habitats and lifecycles of native species in PWOL are expected to be isolated to a small geographical area and small portion of overall available habitat in PWOL (Att D, Section 3.3.1, p.37). If appropriate mitigation measures are implemented, it is considered highly unlikely adverse impacts to native biodiversity within PWOL will occur.

Impacts to threatened species are addressed in Section 4.1.4 of this referral.

4. A substantial and measurable change in the water quality of the wetland – for example, a substantial change in the level of salinity, pollutants, or nutrients in the wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, social amenity or human health

PWOL is a highly disturbed environment, with historical impact to water quality and tidal flow.

The proposed action will not alter any external influences on water quality or input from freshwater flows. Temporary changes in water quality in PWOL as a result of duplication works are likely from sediment mobilisation, however, no permanent changes to water quality are anticipated, with no permanent changes to tidal flows proposed.

Considering the highly disturbed nature of PWOL, temporary changes in water quality from construction activities are anticipated to be within local levels of variability already present in PWOL. Therefore, impacts on biodiversity, ecological integrity, social amenity or human health resulting from changes in water quality are not expected as a result of the proposed action.

5. An invasive species that is harmful to the ecological character of the wetland being established (or an existing invasive species being spread) in the wetland

Construction of this project has the potential of introducing or spreading weed species into the area. The possibility of triggering this criterion will be significantly reduced through the implementation of best practice management measures to avoid the introduction and spread of invasive species.

4.1.3.7 Do you think your proposed action is a controlled action? *

Yes

4.1.3.8 Please elaborate why you think your proposed action is a controlled action. *

Stantec (2024, refer Attachment D) concluded that significant impacts in relation to hydrology, native species habitats and lifecycles, water quality or invasive species are not anticipated to occur as a result of the proposed duplication works provided mitigation measures are implemented. Although considered unlikely to affect the ecological character of the PWOL Ramsar site, impacts to approximately 10.5 ha of habitat within PWOL (0.3% of the available habitat) will result in areas of the wetland being directly impacted and triggers criterion 1. Benefits of the project including maintaining or improving the hydrological regime between Orielton Lagoon and Pitt Water, improved stormwater management and futureproofing of intertidal habitat for live-bearing seastars seek to deliver nature positive outcomes for PWOL and as such the project is not expected to have a significant residual impact.

4.1.3.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The Department of State Growth has sought to avoid, minimise and mitigate impacts to MNES to the greatest possible extent. The duplication of the causeways has been designed to avoid direct impacts to live-bearing sea star as much as practicable, as well as minimise and mitigate impacts to the PWOL Ramsar site through adoption of best practice in project design and environmental management.

It is impossible to eliminate risk entirely, as three of the current causeway's seawalls have been assessed as structurally inadequate to meet future serviceability requirements. The coastal engineering analysis (pitt&sherry, 2020 (refer Attachment A, Section 1.3, p.4) concluded that both causeways need to be raised to higher crest levels to provide protection from sea level rise and extreme storm events. Hence, even without the duplication, both causeways will require upgrading. Under the status quo, intertidal habitat is susceptible to climate change impacts, including sea level rise, threatening their viability.

One of the key priorities during the preliminary and detailed design will be to minimise and mitigate potential impacts to PWOL, including taking nature positive approaches, such as constructing improved conditions for live-bearing seastar habitat.

The following management measures are proposed based on the concept design. Following the development of the preliminary design and the construction methodology, management measures will be further defined.

Habitat and Associated Biota Disturbance

- Avoid and minimise removal of known live-bearing seastar habitat though design and construction including implementation of exclusion zones
- Minimise and mitigate impacts to live-bearing seastar through preparation and implementation of an approved live-bearing seastar management plan including conducting pre-clearance surveys and translocation to natural receiver sites prior to construction[1]
- Operate vessels at reduced speeds and keep watch for marine fauna to avoid strikes
- Undertake targeted surveys for red handfish and spotted handfish to confirm presence or absence of the species within the Sorell Causeway Project area and consult with NRE Tasmanian and the National Handfish Recovery Team; and
- Partially retain and extend the intertidal zone on the northern side of Midway Point Causeway to increase carrying capacity and future proof habitat for live-bearing seastar.

Water Quality Degradation

- Implement best practice water sensitive urban design to reduce water quality impacts.
- Implement best practice ICEPA erosion and sediment controls including installation of diversion drains and silt curtains, demarcation of no-go areas and stabilisation of site access (TEER & DEP, 2023); and
- Develop an Acid Sulfate Soil (ASS) Management Plan, based on the Tasmanian ASS Management Guidelines, once a confirmed construction methodology is available.

Hydrological Alterations

Undertake hydrology and flood modelling once culvert configuration is confirmed and preliminary design has been prepared to identify extent and intensity of drainage and infiltration flows for Orielton Lagoon. Where practicable, consider modification of culverts to increase tidal flushing between Orielton Lagoon and Pitt Water where modelling demonstrates modifications will not compromise live-bearing seastar habitat.

Fish Passage Alterations

- Consider the design parameters stated in Fairfull and Witheridge (2003) and Wetlands and Waterways Works Manual – Environmental Best Practice Guidelines 5: Siting and Designing Stream Crossings (NRE Tas) when planning, designing and constructing bridge and culvert infrastructure to minimise impacts on fish passage
- Consult Department of Natural Resources and Environment Tasmania regarding fish passage; and
- Implement appropriate construction methodology that maintains fish passage during works.

Introduction and Spread of Pests and Diseases

Implement marine pest and disease controls, such as:

- Vessel Contractors must undertake a Vessel Risk Assessment (VRA), which includes using the online Vessel-Check application and complete a Biofouling Record Book Form for each vessel prior to mobilisation of the vessel to site. The history of the vessel is also to be provided including location of last port and previous antifouling applications
- All vessels assessed in the VRA as uncertain or high risk for introduction of invasive marine species or disease must undertake an Invasive Marine Species Inspection (IMS). Any construction vessels mobilised from outside of Australia shall also be considered high risk and an IMS inspection must be carried out
- The IMS inspection must be undertaken by an appropriately qualified practitioner with experience in biosecurity of marine vessels
- The Contractor(s) must provide the completed IMS report at least seven days prior to the vessel leaving the departure port
- Where IMS inspections identify significant amounts of sediment and/or the presence of an invasive marine species or disease, as deemed by the IMS inspector, the vessel must be dry docked and cleaned prior to entering the site. The Contractor(s) must then resubmit the VRA and if the vessel is classified as low risk, it shall be permitted to sail to site and begin operations
- All work vessels must be cleaned before and after leaving site; and
- Ballast water management procedures also apply to vessels operating on site in accordance with the Australian Ballast Water Management Requirements (Department of Agriculture, Water and the Environment 2020).

Increased Underwater Noise

- Construction methodology will consider noise and vibration levels and potential impacts on marine and migratory fauna and take all reasonable steps to minimise these potential impacts ; and
- Employ soft-start procedures when operating any noisy machinery to enable marine animals to move and avoid the Project area.

Best practice construction environmental management

State Growth has a suite of industry standards specifications for construction including Section 176 Environmental Management which sets out specific construction requirements for managing matters including water quality, erosion and sediment control, contaminated soils and materials, fuels and chemicals, noise, flora and fauna, weed, pest and diseases, cultural heritage and reporting. Where not already covered by Section 176,

contract management requirements outlined above will be included in the construction contract specifications. The specifications will require preparation and implementation of a project specific Construction Environmental Management Plan, including species specific management plans.

4.1.3.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

It is considered that potential impacts to the PWOL Ramsar site can be minimised during detail design and suitably mitigated such that no residual impacts are likely to occur.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Antipodia chaostola leucophaea	Tasmanian Chaostola Skipper, Heath-sand Skipper
No	No	Aquila audax fleayi	Tasmanian Wedge-tailed Eagle, Wedge-tailed Eagle (Tasmanian)
No	No	Ardenna grisea	Sooty Shearwater
No	No	Arenaria interpres	Ruddy Turnstone
No	No	Balaenoptera musculus	Blue Whale
No	No	Botaurus poiciloptilus	Australasian Bittern
No	No	Brachionichthys hirsutus	Spotted Handfish
No	No	Caladenia caudata	Tailed Spider-orchid
No	No	Caladenia saggicola	Sagg Spider-orchid
No	No	Calidris acuminata	Sharp-tailed Sandpiper

Direct impact	Indirect impact	Species	Common name
No	Yes	Calidris canutus	Red Knot, Knot
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris tenuirostris	Great Knot
No	No	Carcharodon carcharias	White Shark, Great White Shark
No	No	Charadrius mongolus	Lesser Sand Plover, Mongolian Plover
No	No	Dasyurus maculatus maculatus (Tasmanian population)	Spotted-tail Quoll, Spot-tailed Quoll, Tiger Quoll (Tasmanian population)
No	No	Dianella amoena	Matted Flax-lily
No	No	Diomedea antipodensis	Antipodean Albatross
No	No	Diomedea antipodensis gibsoni	Gibson's Albatross
No	No	Diomedea epomophora	Southern Royal Albatross
No	No	Diomedea exulans	Wandering Albatross
No	No	Diomedea sanfordi	Northern Royal Albatross
No	No	Eubalaena australis	Southern Right Whale
No	No	Fregetta grallaria grallaria	White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian)
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Glycine latrobeana	Clover Glycine, Purple Clover
No	No	Hirundapus caudacutus	White-throated Needletail
No	No	Lathamus discolor	Swift Parrot
No	No	Lepidium hyssopifolium	Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed
No	No	Leucochrysum albicans subsp. tricolor	Hoary Sunray, Grassland Paper-daisy
No	Yes	Limosa lapponica baueri	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit
No	No	Limosa limosa	Black-tailed Godwit
No	No	Litoria raniformis	Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel

Direct impact	Indirect impact	Species	Common name
No	No	Macronectes halli	Northern Giant Petrel
No	No	Neophema chrysostoma	Blue-winged Parrot
No	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Pachyptila turtur subantarctica	Fairy Prion (southern)
No	No	Pardalotus quadragintus	Forty-spotted Pardalote
Yes	Yes	Parvulastra vivipara	Tasmanian Live-bearing Seastar
No	No	Perameles gunnii gunnii	Eastern Barred Bandicoot (Tasmania)
No	No	Pluvialis squatarola	Grey Plover
No	No	Prasophyllum apoxychilum	Tapered Leek-orchid
No	No	Prasophyllum milfordense	Milford Leek-orchid
No	No	Prototroctes maraena	Australian Grayling
No	No	Pterodroma leucoptera leucoptera	Gould's Petrel, Australian Gould's Petrel
No	No	Pterostylis ziegeleri	Grassland Greenhood, Cape Portland Greenhood
No	No	Sarcophilus harrisii	Tasmanian Devil
No	No	Seriolella brama	Blue Warehou
No	No	Sternula nereis nereis	Australian Fairy Tern
No	No	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
No	No	Thalassarche bulleri platei	Northern Buller's Albatross, Pacific Albatross
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
No	No	Thalassarche cauta	Shy Albatross
No	No	Thalassarche chrysostoma	Grey-headed Albatross
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	No	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross
No	No	Thinornis cucullatus cucullatus	Eastern Hooded Plover, Eastern Hooded Plover
No	No	Thymichthys politus	Red Handfish

Direct impact	Indirect impact	Species	Common name
No	No	Tringa nebularia	Common Greenshank, Greenshank
No	No	Tyto novaehollandiae castanops (Tasmanian population)	Masked Owl (Tasmanian)
No	No	Xenus cinereus	Terek Sandpiper
No	No	Xerochrysum palustre	Swamp Everlasting, Swamp Paper Daisy

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Tasmanian Forests and Woodlands dominated by black gum or Brookers gum (Eucalyptus ovata / E. brookeriana)
No	No	Tasmanian white gum (Eucalyptus viminalis) wet forest

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Live-bearing Seastar

The live-bearing seastar (*Parvulastra vivipara*) occurs within the Project area in rocky intertidal habitat on the Midway Point and Sorell Causeways. This Project has the potential to impact on *P. vivipara* habitat, and some or all causeway animals will require temporary or permanent translocation from areas affected by construction works.

Direct Impacts

A key principle of the detailed design of the proposed causeways duplication will be to avoid habitat of the live-bearing seastar (refer Attachment L - Seastar Summary Report, Section 3.4) as follows:

- In total, unavoidable direct loss of 338 m2 of low quality live-bearing seastar habitat supporting an estimated 340 animals is predicted ; and
- Translocation to natural receiver sites within Pitt Water and Pipe Clay Lagoon has the potential to have a direct impact on animals being translocated, animals of the same species in the receiver site area, genetic diversity, and other species at receiver sites.

Indirect Impacts from construction may also include:

- Habitat disturbance from stabilisation of causeway faces
- Sediment disturbance from machinery and land reclamation works
- Modified hydrodynamic processes during temporary culvert modification activities
- Changes in water quality conditions from temporary stormwater discharge points; and
- Shading from offshore structures.

Once operational the project is not expected to have a significant increase in impacts from current activities, however indirect impacts through culvert modifications and altered hydrological processes, degraded water quality or altered sediment transport processes has the potential to occur without mitigation.

Nature Positive Impacts from the Project include:

- Habitat enhancement works on the northern side of the Midway Point Causeway, adjacent to the sandstone wall, to extend the upper 'drier' half of habitat where the wall currently occupies the P. vivipara height zone, and 'future proof' habitat against predicted 2100 sea level rise; and
- Creation of supplementary high-quality habitat on natural shores will deliver increased long-term regional capacity, with the potential for the population to naturally expand beyond the project and the existing enclaves, contributing to the conservation of this species.

These impacts and mitigations are discussed in more detail in Attachment H, Section 4.2, p. 69 and Attachment K (this document contains sensitive information that cannot be published).

Threatened shorebirds

Three threatened shorebirds are regular migrants to PWOL; the red knot (*Calidris canutus*), bar-tailed godwit (*Limosa lapponica baueri*) and eastern curlew (*Numenius madagascariensis*). These species are all migratory shorebirds which arrive during spring/summer prior to departing in autumn/winter.

Potential impacts to these species from the proposed duplication of the causeways are a loss of feeding and roosting habitat.

Indicative areas used by migratory shorebirds for feeding and roosting are presented in Table 5 and Figure 14 of Attachment C. Noting that the data refers to the habitat within the study area, which is larger than the final impact area, and that the final extent of impact to habitat cannot be quantified until detailed designs are complete.

Areas of feeding and roosting habitat that overlap the project area are:

- A feeding area to the south of the Midway Point Causeway (Figure 14, inset 1) – 0.03 ha
- A roosting area at the western end of the Sorell Causeway, on the southern side of the causeway (Figure 14, inset 3) - 0.07 ha
- The quantitative loss of habitat 0.05% for the Sorell Causeway and 0.3% for Midway Point Causeway (Table 4).

Refer to Section 2.6.2, pages 29 – 37, Attachment C for more information.

Threatened flora

Tailed spider-orchid (*Caladenia caudata*)

The tailed spider-orchid is a terrestrial orchid found across the lowland areas of north, south, and south- eastern Tasmania and occurs in the sandy / loamy soils of heathy and dry eucalypt woodlands. The nearest subpopulation is in heathy forest on private property south of the project area where four plants were recorded in 2018, and 30 in 2019.

There are no known plants within the development footprint and the proposed action is considered unlikely to directly impact this species.

There is a potential for indirect impacts from construction activities, i.ee, impacts to hydrology and nutrient loading with unknown effects on essential mycorrhiza in soil adjacent to earthworks. However, the likelihood of the project impacting individuals or habitat critical for the species is considered remote as there are no records of individual plants or habitat in proximity to this section of the road. The far western end of the project is more than 50 m from confirmed critical orchid habitat. Any potentially suitable habitat that persists at Pittwater Bluff, potentially closer to the project site, is upslope on a knoll behind a cutting making it remote from any likely indirect impacts (NBES, 2024).

Refer to Section 2.5.1, pages 16 – 22, Attachment C for additional information.

Sagg spider-orchid (*Caladenia saggicola*)

The sagg spider-orchid is a deciduous herb, endemic to Tasmania where it is confined to the south-east of Tasmania. There are only two confirmed populations with a combined area of occupancy less than 10 ha (refer Figure 10, page 25, Attachment D). The most important population for the continuation of this species is located 400 m beyond the western end of the project area.

No known plants or critical habitat fall within the development footprint or in such proximity as to be affected by indirect impacts.

Refer to Section 2.5.2, pages 23 – 27, Attachment C for additional information.

Milford leek-orchid (*Prasophyllum milfordense*)

Prasophyllum milfordense is a terrestrial orchid endemic to southern Tasmania. It is only known from the Milford property, with the species occurring within a prescribed area within DVC habitat more than 500 m west of the study area. The likelihood of the species occurring within the study area is considered remote based on habitat suitability.

No known plants or critical habitat fall within the development footprint or in such proximity as to be affected by indirect impacts.

Refer to Section 2.3.2, pages 16 – 18, Attachment G for additional information.

Threatened fauna

Red handfish (*Thymichthys politus)*

The red handfish are small demersal fish that inhabit marine benthic environments and are endemic to Tasmania and are now known from only two small, isolated populations occurring in a single region in the south-east of Tasmania, approximately 12km southeast of the Project area.

A targeted handfish survey undertaken in July 2024, identified no suitable habitat and did not record any red handfish observations. The potential for impact to the species is considered unlikely. Construction impacts associated with habitat disturbance, noise, sedimentation and hydrological alterations are expected to be localised and downstream impacts are not anticipated. Refer to Attachment A, Section 2.1.7, Attachment F, Attachment H and Attachment N for additional information.

Spotted handfish (*Brachionichthys hirsutus*)

Spotted Handfish is endemic to Tasmania and is found in parts of the Derwent Estuary, Frederick Henry, Ralphs and North West Bays. The species has not been recorded in PWOL. There are no records for Spotted Handfish within 10km of the Project area. The potential for impact to the species is considered unlikely. Construction impacts associated with habitat disturbance, noise, sedimentation and hydrological alterations are expected to be localised and no downstream impacts are anticipated. Refer to Attachment A Section 2.1.7, Attachment F, Attachment H and Attachment N for additional information.

Australian grayling (*Prototroctes maraena)*

The Australian grayling has the potential to be present in the vicinity of the Project area during its larval or juvenile life-phases with an upstream population above Midway Point likely. The Project Area falls within the potential range boundary however there are no records of this species within 20km of the Project area. Any direct impacts to the species are considered highly unlikely, with indirect impacts, such as water quality changes also considered negligible due to the species mobility and ability to avoid areas of disturbance.

Terrestrial avianfauna

Three threatened terrestrial birds identified as having the potential to occur within the Project area, include:

- Swift parrot (*Lathamus discolor*)
- Blue-winged parrot (*Neophema chrysostoma*); and
- Tasmanian masked owl (*Tyto novaehollandiae*)

The only values that woodland birds may rely on within the study area are hollow bearing trees on the Tasmanian Golf Club. Trees with a diameter at breast height of more than 70 cm are likely to contain hollows, and so are considered potential habitat trees for the three threatened woodland birds. Project design has sought to avoid

impacts to hollow-bearing trees at the Tasmanian Golf Club to the greatest practical extent by adopting a southern alignment. Any direct impacts to these species is considered negligible due to species mobility with indirect impacts considered unlikely given construction management controls including exclusion zones and pre-clearance procedures.

Terrestrial mammals

Four threatened terrestrial mammal species identified as having the potential to occur within the Project area include:

- Spotted-tail quoll (*Dasyurus maculatus*)
- Eastern quoll (*Daasyurus viverrinus*)
- Eastern barred bandicoot (*Perameles gunnii gunnii*); and
- Tasmanian devil (Sarcophilus harrisii).

Although there is habitat for these species known from the broader area, there was no evidence of dens identified during targeted surveys of the Project area. Due to the high level of existing disturbance in the Project area and given proximity of higher quality habitat in the vicinity, potential impacts from construction activities are expected to be negligible. The proposal will not introduce new or increase impacts once operational.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

Live-bearing Seastar (*Parvulastra vivipara*)

There is potential for direct and indirect impacts to the live-bearing seastar (*Parvulastra vivipara*) from the loss of habitat which if not mitigated could be considered a significant impact. Refer to Section 2, page 24-27, Attachment A for further details.

The Project site consisting of the two causeways in Pitt Water supports a significant portion (approximately 66%) of the important Pitt Water population of the vulnerable live-bearing seastar. Detailed investigations of the causeway subpopulations, as well as subpopulations on neighbouring natural shorelines, has helped to identify key habitat requirements for the species as well as high quality habitats that are particularly important for conservation of the species. The proposed concept design has been developed which aims to avoid direct impacts on key habitats supporting high densities of *P. vivipara* (refer Attachment B, Section 1),

The project will directly impact 338 m² of low-quality habitat for P. vivipara. Higher-quality habitat areas along the causeways, including two key areas on the northern side of Midway Point Causeway and southern side of Sorell Causeway, has been preserved in the design, as these areas support most of the species on the structures. Potential indirect impacts, such as changes in water quality, hydrodynamics, and sediment transport, could affect habitat quality but can be managed with industry-standard construction practices. It is recognised that these populations are at risk under the status quo from causeway deterioration and sea level rise (refer Attachment L, Section 4).

There is the potential for the Project to impact significantly on the vulnerable live-bearing seastar through a long term decrease in the size of an important population, reduction in the area of occupancy of an important population, fragmentation of an important population, adversely affecting habitat critical to the survival of the species, and modifying, destroying, removing, isolating or decreasing the availability or quality of habitat to the extent that the species is likely to decline.

Parsons (2024) has identified a range of mitigation measures (refer Attachment L, Section 4, p.32-41) to minimise the risk of these sources of significant impact. This includes measures to address potential indirect impacts, and also detailed approaches to replace habitat that will be unavoidably lost. Several options for habitat replacement have been identified, with detailed habitat augmentation trials indicating that receiver habitat for seastars, including those requiring translocation either as a result of temporary disturbance or anticipated longer-term

habitat loss, can viably be created on the basis of an understanding of the species' habitat needs and detailed site-based investigations. Habitat augmentation is considered an essential measure for impact minimisation, due to existing habitats being at population capacity and unable to support individuals requiring translocation away from causeway habitats. Avoidance of a significant residual impact as a result of the Project is considered feasible upon implementation of the full range of measures identified.

Threatened avian fauna

Three threatened shorebirds are regular migrants to PWOL; the red knot, bar-tailed godwit and eastern curlew. These species are all migratory shorebirds which arrive during spring/summer prior to departing in autumn/winter.

The areas impacted by this project are small and are not expected to substantially reduce available foraging resources or roosting opportunities in the PWOL area, due to the extensive remaining habitat available in the PWOL. There is no likelihood that this project will result in any decreases in the size of any populations.

Any areas of roosting and feeding habitats expected to be lost due to this project are small and not considered to reduce opportunities for shorebirds given the available remaining habitat in the PWOL Ramsar site.

The small loss of areas of roosting and feeding habitats are not expected to impact movement of shorebirds within the PWOL, thus this proposal will not result in the fragmentation of existing populations. The regular movement of shorebirds within the PWOL for feeding and roosting due to tides, anthropogenic and natural disturbance, vegetation, and prevailing weather conditions, is constantly in flux. Therefore, shorebirds are highly mobile and already utilise a number of areas within PWOL as foraging and roosting habitat at any given time.

The expected impact areas surrounding the causeways are small and their loss or modification are not expected to substantially modify, destroy or isolate any areas of the PWOL Ramsar site.

These species do not breed in Australia; therefore, it is considered highly unlikely that disruption to a breeding cycle would occur.

The expected impact areas are small, and their loss or modification are unlikely to impact the availability of quality habitat in PWOL to the extent that the species is likely to decline, due to the available remaining habitat in close proximity

With implementation of industry standard weed and hygiene management measures, the proposal is not likely to increase the present of invasive species that are harmful to the species.

These species are susceptible to avian influenza and so may be threatened by future outbreaks of the virus. The proposed project is unlikely to have an impact upon the spread or introduction of avian influenza because no change to vectors is produced.

There are no Recovery Plans for these species. The proposed project is not considered to pose any interference to the priority actions and key threats identified in the approved conservation advice for these species.

Threatened flora

Tailed spider-orchid (*Caladenia caudata*)

There are no known tailed spider-orchid plants within the development footprint and the proposed action is considered unlikely to impact this species. Refer to Table 2, pages 21 – 22, Attachment C for additional information.

Sagg spider-orchid (*Caladenia saggicola*)

There are no known sagg spider-orchid plants within the development footprint and the proposed action is considered unlikely to impact this species. Refer to Table 3, pages 25 – 27, Attachment C for additional information.

Milford leek-orchid (*Prasophyllum milfordense*)

There are no known Milford leek-orchid plants within the development footprint and the proposed action is considered unlikely to impact this species. Refer to Table 3, pages 26 – 27, Attachment C for additional information.

Threatened fauna

Red handfish (*Thymichthys politus)*

The red handfish are now known from only two small, isolated populations occurring in a single region in the south-east of Tasmania, approximately 9-10 km southeast of the Project area.

No suitable habitat or red handfish observations have been identified within the survey area (Elgin, 2024). Therefore, the potential for impact to the species is considered unlikely. Refer Attachment A, Section 2.1.7, p.21 and Attachment F for further information.

Australian grayling (*Prototroctes mara)*

The proposed duplication works are not likely to have a significant impact on the Australian grayling. The grayling may only transit through the Project area during their larval and juvenile stages.

The impact pathway of the proposed works is the potential changes to water quality (turbidity), or to reduce fish passage. However, water quality impacts are temporary and localised, and the Australian grayling has the ability to avoid such areas (Stantec, 2024). There will be no reduction in the availability of fish passage. Refer to Attachment A, Section 2.1.7, p.23 for further information.

Spotted handfish (Brachionichthys hirsutus)

The proposed duplication works are not likely to have a significant impact on the spotted handfish as they are not known to occur in the Pittwater region. Attachment A, Section 2.1.7, p.23 for further information.

4.1.4.7 Do you think your proposed action is a controlled action? *

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

The Project site consisting of the two causeways in Pitt Water supports a significant portion of the important Pitt Water population of the vulnerable live-bearing seastar. Detailed investigations of the causeway subpopulations, as well as subpopulations on neighbouring natural shorelines, has helped to identify key habitat requirements for the species as well as high quality habitats that are particularly important for conservation of the species. The proposed concept design has been developed which aims to avoid direct impacts on key habitats supporting high densities of *P. vivipara*. Unavoidable habitat loss will occur in small areas of the Midway Point Causeway, while indirect impacts across larger areas of habitat could occur on either causeway as a result of water quality degradation, or modified sediment transport and hydrodynamic processes, if appropriate mitigation measures are not applied.

There is the potential for the Project to impact significantly on the vulnerable live-bearing seastar through a long term decrease in the size of an important population, reduction in the area of occupancy of an important population, fragmentation of an important population, adversely affecting habitat critical to the survival of the species, and modifying, destroying, removing, isolating or decreasing the availability or quality of habitat to the extent that the species is likely to decline. Parsons (2024) (Attachment L, Section 4, p.32-41) has identified a range of mitigation measures to minimise the risk of these sources of significant impact. This includes measures to address potential indirect impacts, and also detailed approaches to replace habitat that will be unavoidably lost. Several options for habitat replacement have been identified, with detailed habitat augmentation trials indicating that receiver habitat for seastars, including those requiring translocation either as a result of temporary disturbance or anticipated longer-term habitat loss, can viably be created on the basis of an understanding of the species' habitat needs and detailed site-based investigations. Habitat augmentation is considered an essential measure for impact minimisation, due to existing habitats being at population capacity and unable to support individuals requiring translocation away from causeway habitats. Avoidance of a significant residual impact as a result of the Project is considered feasible upon implementation of the full range of measures identified.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Live-bearing seastar

A summary of Parsons, 2024 (summary report) avoidance and mitigation measures is provided below. For additional details, refer to Section 4.1, Attachment L.

Avoidance measures

- Avoid re-alignment of the causeway sides supporting the largest seastar populations, and avoid direct physical disturbance of these areas of habitat
- Avoid construction of structures offshore from seastar habitat; and
- Where needed, new seawalls will be constructed inshore of the habitat supporting the largest seastar populations, with a buffer zone and bund created to isolate construction works and associated potential impacts.

Mitigation measures:

- On the Midway Point Causeway, works will be undertaken to extend (upshore) and future proof the primary area of habitat adjacent to the existing sandstone wall
- Works will be undertaken to remove or stabilise unstable exposed soils and fragmented artificial structures adjacent to seastar habitat
- On the Sorell Causeway, modifications to culverts will be optimised through hydrological modelling and exclusion zones to avoid impacts
- Stormwater discharge will be avoided, where possible, within 50 m of seastar habitat
- A range of additional water quality protection measures will be applied during works to avoid dispersion of sediment, pollutants or other waste material in accordance with best practice industry standards
- Construction designs and methodologies will be determined in consultation with engineering and construction firms to identify anticipated levels of disturbance, and hence areas where seastars will require temporary or permanent translocation prior to initiation of works
- Following the completion of works, the condition of habitat will be monitored for a minimum period of three months prior to return of animals to re-seed causeway habitat
- A monitoring program will be undertaken to assess the impact of construction works on any seastar remaining on causeways, or located in natural habitats adjacent to causeways, and to monitor receiver and return sites; and
- Any translocations and associated monitoring will be guided by an appropriately detailed translocation plan approved by NRE Tas.

General management measures proposed by NBES, 2024 (Attachment G, Section 5, p.71) include:

Vegetation

- Minimise impact to ASS and ensure habitat outside of the design footprint is identified as a designated exclusion zone, delineated with fencing and outlined in design documents
- All native vegetation outside of the design footprint will be a designated exclusion zone, delineated with fencing and outlined in design documents
- An Erosion and Sediment Control Plan in accordance with the International Erosion Control Association (IECA) guidelines will be developed, to avoid sedimentation of the saltmarsh adjoining the survey area
- A Weed and Hygiene Management Plan in accordance with NRE Tas Guidelines will be prepared to manage existing declared weeds and mitigate the spread of weeds and pathogens; and
- A targeted survey for threatened orchid species will be undertaken within the Project area

Shorebirds

- Quantify the final extent of impact to habitat once detailed design is complete
- Minimise alteration of sediment loading and water flow within PWOL by developing an Erosion and Sediment Control Plan in accordance with IECA guidelines; and

Lighting will be designed in accordance with the National Light Pollution Guidelines for Wildlife

Woodland birds

- Potential nesting trees will be avoided, where possible, and a Tree Protection Zone (TPZ) established around each tree. No works, stockpiling of materials, transport, site offices or any other disturbance that may compact soil should occur within the TPZs
- The project Construction and Environment Management Plan (CEMP) will include adequate exclusion zones where necessary which will be marked on construction plans
- Pre-clearance procedures will follow Department of State Growth specifications to guide clearing and will include inspection of hollows by a suitably qualified person to ensure no nests are disturbed. Any hollow bearing limbs will be removed and retained within adjacent areas to provide foraging habitat; and.
- Clearing works will occur outside the breeding season for threatened woodland birds.

Devils and Quolls

- Pre-clearance procedures will follow State Growth's Den Management Protocol to minimise risk to Tasmanian devil and quolls, should a den be discovered. The protocol is to reference the Natural and Cultural Heritage Division (2015) 'Survey Guidelines and Management Advice for Development Proposals that may impact on the Tasmanian Devil (*Sarcophilus harrissii*)'

Best Practice Construction Environmental Management

State Growth has a suit of industry standards specifications for construction including Section 176 Environmental Management which sets out specific construction management requirements including water quality, erosion and sediment control, contaminated soils and materials, fuels and chemicals, noise, flora and fauna, weed, pest and diseases, cultural heritage and reporting. Where not already covered by Section 176, contract management requirements outlined above will be included in construction specifications which includes preparation and implementation of a project specific Construction Environmental Management Plan, and species specific management plans.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

As proposed by Parsons, 2024 (refer Attachment L), there are several options for addressing habitat and population loss for the live-bearing seastar to avoid a significant residual impact. Refer to Section 4.1, Attachment L for details. In conclusion:

- On balance, if habitat extension and future proofing works on the Midway Point Causeway are deemed feasible and pose low risks to existing habitat, they represent the best option for the longer term population status of P. vivipara
- They may also negate the need for formal environmental offsets, since on-site mitigation measures could address unavoidable habitat loss and avoid a significant impact. It is anticipated that disturbance directly adjacent to habitat would necessitate translocation of animals along the sandstone wall section to off-site receiver sites prior to works, with the augmented sites predicted to provide sufficient receiver capacity
- Offsite habitat augmentation has the potential to fully offset (and exceed) direct population loss under the full range of habitat work outcomes for the Midway Point Causeway, although this could only compensate for an estimated 53% of habitat by area under the high loss scenario whereby habitat works failed and existing downshore habitat was lost; and
- The appropriate option should be determined from an assessment of specific construction methods required and associated risks to habitat. Under a best-case scenario, habitat area for the species could potentially be expanded as a result of the project through both on-site and off-site habitat enhancement and augmentation works.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	Actitis hypoleucos	Common Sandpiper
No	No	Apus pacificus	Fork-tailed Swift
No	No	Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater
No	No	Ardenna grisea	Sooty Shearwater
No	Yes	Arenaria interpres	Ruddy Turnstone
No	No	Balaenoptera musculus	Blue Whale
No	Yes	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris alba	Sanderling
No	No	Calidris canutus	Red Knot, Knot
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris melanotos	Pectoral Sandpiper
No	No	Calidris pugnax	Ruff
No	Yes	Calidris ruficollis	Red-necked Stint
No	No	Calidris tenuirostris	Great Knot
No	No	Caperea marginata	Pygmy Right Whale
No	No	Carcharodon carcharias	White Shark, Great White Shark
No	Yes	Charadrius bicinctus	Double-banded Plover
No	No	Charadrius mongolus	Lesser Sand Plover, Mongolian Plover
No	No	Charadrius veredus	Oriental Plover, Oriental Dotterel
No	No	Diomedea antipodensis	Antipodean Albatross
No	No	Diomedea epomophora	Southern Royal Albatross
No	No	Diomedea exulans	Wandering Albatross
No	No	Diomedea sanfordi	Northern Royal Albatross
No	No	Eubalaena australis	Southern Right Whale
No	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Hirundapus caudacutus	White-throated Needletail

Direct impact	Indirect impact	Species	Common name
No	No	Lagenorhynchus obscurus	Dusky Dolphin
No	No	Lamna nasus	Porbeagle, Mackerel Shark
No	No	Limosa lapponica	Bar-tailed Godwit
No	No	Limosa limosa	Black-tailed Godwit
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	No	Macronectes halli	Northern Giant Petrel
No	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	Yes	Numenius phaeopus	Whimbrel
No	Yes	Pluvialis fulva	Pacific Golden Plover
No	No	Pluvialis squatarola	Grey Plover
No	No	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
No	No	Thalassarche cauta	Shy Albatross
No	No	Thalassarche chrysostoma	Grey-headed Albatross
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	No	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross
No	No	Tringa brevipes	Grey-tailed Tattler
No	Yes	Tringa nebularia	Common Greenshank, Greenshank
No	No	Xenus cinereus	Terek Sandpiper

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Eight shorebirds that are regular migrants to PWOL and listed as Marine and Migratory. Most of these species arrive in PWOL in spring/summer and leave in autumn/winter. The sole permanent resident, listed under the EPBC Act, is the red-capped plover (*Charadrius ruficapillus*). Migratory shorebirds have been grouped because of their similar habitat, life history and food requirements.

Refer to Section 2.6.3 and Appendix A of Attachment C for further details on each species.

Potential impacts to Migratory and Marine shorebirds are similar to those for threatened migratory shorebirds, including a loss of feeding and roosting habitat and likely disruption of feeding, roosting and loafing behaviour. It is noted that marine shorebirds are not MNES for Part 3 matters where not in a Commonwealth Marine Area.

The red-capped plover (*Charadrius ruficapillus*), a resident shorebird, is known to breed regularly in PWOL. The species is recorded from Barilla Bay and Orielton Lagoon in all seasons. Red-capped plovers select sheltered sites at Barilla Bay and the northern end of Orielton Lagoon for nesting, roosting and feeding. These sites are more than 2 km from either causeway, consequently breeding will not be impacted (NBES, 2024).

Proportionate loss of feeding and roosting habitat from the proposed action, as per the threatened migratory shorebirds is small. The direct impact to habitat within PWOL identified (10.5 ha or 4.21%) presents a worst-case scenario, assuming all of the study area will be impacted. Detailed design will define a footprint that is less than this area, if not, no greater than it. Without detailed design, indirect impacts are not easily quantifiable, but are likely to relate to erosion and sedimentation. These impacts are anticipated to be minimal with adequate controls around disturbance and sediment control.

The design includes the provision of low hooded lighting on the shared used pathway in accordance with AS/NZS 1158.3.1:2020 Lighting for roads and public spaces Part 3.1 Pedestrian area (Category P) lighting – Performance and design requirements. Options for lighting currently include We-ef PSY424 bollards with 0% Upward Light Ratio (UWLR) fit the low to the ground and directed down criteria. These tie in with the lighting for the shared use pathway at the Airport Interchange end of the road. These are an adaptive control as per the National Light Pollution Guide for Wildlife. Further adaptive controls under consideration include motion sensing. Without detailed design, direct and indirect impacts are not easily quantifiable, however, are anticipated to be minimal with these adaptive controls.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

The impacts toward each of the three significant impact criteria are provided below. Refer Table 7, Attachment D. An action is likely to have a significant impact on a migratory/marine species if there is a real chance or possibility that it will:

1.Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species

The expected impact areas are proportionally small, when compared to the entire PWOL area, and their loss or modification are not expected to substantially modify, destroy or isolate any areas of PWOL. There is potential for changes to the hydrological flow, if additional culverts are added to the Sorell Causeway design. This will likely result in improved water quality within Orielton Lagoon. Any changes in hydrological flow will be modelled following completion of the detailed design (NBES, 2024).

2. Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species

Invasive species that are harmful to shorebirds include dogs and foxes. Foxes are not present in Tasmania, and the proposal is unlikely to increase the presence of dogs in the area. Construction of this project has a moderate possibility of introducing or spreading invasive weed species into the area, if not managed appropriately. The

possibility of triggering this criterion can be reduced through implementation of mitigation measures that minimise the spread and introduction of weeds during construction. These measures will be included in a project-specific Weed and Hygiene Management Plan, following detailed design.

3. Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species

This project has the potential to disrupt feeding and resting behaviours. However, only small areas of roosting and feeding habitats are expected to be lost and this is not anticipated to reduce roosting and feeding opportunities for shorebirds in the PWOL, given the large available habitat in PWOL.

The migratory species assessed here do not breed in Australia, thus this proposed action will not impact breeding.

Red-capped plovers are known to breed regularly in the PWOL. However, breeding areas are over 2 km from the Project area and are therefore highly unlikely to be impacted by the proposed duplication works.

This proposed project is not expected to impact on an ecologically significant proportion of any of these species, thus it is not conceivable that the proposal will breach this criterion.

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

Consideration of impacts found that the listed Migratory shorebirds will not be at risk of a significant impact from this proposal, due to the minimal loss of potential habitat and given the large amount of available habitat in PWOL.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Proposed management measures for the PWOL Ramsar site proposed in section 4.1.3.10 of this referral, are also applicable to migratory and marine shorebirds. These include:

- Measures to reduce water quality impacts and minimise erosion and sedimentation of PWOL;
- Measures to reduce lighting impacts in accordance with the National Light Pollution Guide for Wildlife; and
- Implementation of measures to minimise the risk of spread of marine pests and disease.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The proposed action is highly unlikely to significantly impact Migratory listed shorebirds and therefore an offset will not be required.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project is not a nuclear action.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project area is not located within 10km of a Commonwealth Marine Area hence will not be directly or indirectly impacted.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project is located over 2,000 km from the Great Barrier Reef and hence will not be impacted.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project is not a large coal mine or coal seam gas project.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project does not involve Commonwealth land.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action will not impact Commonwealth heritage places overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)

- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

An options analysis was conducted and the preferred design was found to be Option 4B through a multicriteria analysis. A copy of the Options Analysis Report (pitt&sherry, 2023) is provided in Attachment M. With a summary provided in Attachment A, section 1, page 5.

Extensive investigations, planning and stakeholder engagement have been undertaken over a number of years by the Tasmanian Government. Refer to Attachment M for the Options Analysis Report which outlines the alternative options considered and why an alternate location for the proposed causeway duplication is not possible.

Maintaining the causeways ‘as is’ is also not a viable option due to parts of the existing causeway seawalls/revetments/embankments eroding and it is expected that this is being accelerated by more intense and frequent weather events in recent years. The design life of this existing transport infrastructure is limited. The upgrade is necessary, not only to improve road user safety and travel time reliability but to maintain this essential road network link.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High

#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High
#3.	Document	Att C-NBES Impact Assessment-2024.PDF Terrestrial MNES Significant Impact Assessment	02/10/2024	No	High
#4.	Document	Att D-Stantec Impact Assessment-2024.PDF Marine MNES Significant Impact Assessment	18/08/2024	No	High
#5.	Document	Att E-Maps-Midway Point and Sorell Causeways PA and DF, PWOL.PDF Maps - project area, PWOL and highway tie in	14/11/2024	No	High

1.2.5 Information about the staged development

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att C-NBES Impact Assessment-2024.PDF Terrestrial MNES Significant Impact Assessment	02/10/2024	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Duplication of Midway Point Causeways Community Consultation Feedback https://www.transport.tas.gov.au/__data/assets/p..			High
#2.	Link	SETS Consultation Summary https://www.transport.tas.gov.au/__data/assets/p..			High
#3.	Link	Sorell to Hobart Corridor Plan https://www.transport.tas.gov.au/__data/assets/p..			High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High
#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High
#3.	Document	Att G-NBES Terrestial NVA-2024.PDF Terrestrial Natural Values Assessment	19/06/2024	No	High
#4.	Document	Att H-Stantec Marine NVA-2024.PDF Marine Natural Values Assessment	24/07/2024	No	High

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High
#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High

3.1.4 Gradient relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att M-p&s Options Report-2023.pdf Options Assessment	31/08/2023	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High
#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High
#3.	Document	Att C-NBES Impact Assessment-2024.PDF Terrestrial MNES Significant Impact Assessment	02/10/2024	No	High
#4.	Document	Att G-NBES Terrestial NVA-2024.PDF Terrestrial Natural Values Assessment	19/06/2024	No	High
#5.	Document	Att N-Elgin Handfish Survey Field Note-2024.pdf Handfish Survey Field Note	07/08/2024	No	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High
#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High
#3.	Document	Att C-NBES Impact Assessment-2024.PDF Terrestrial MNES Significant Impact Assessment	02/10/2024	No	High
#4.	Document	Att G-NBES Terrestial NVA-2024.PDF Terrestrial Natural Values Assessment	19/06/2024	No	High

3.3.1 Commonwealth heritage places overseas or other places that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att I-CHMA Historic Heritage-2020.pdf Historic Heritage Assessment	28/01/2020	No	High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att J-CHMA Aboriginal Heritage Assessment-2018.pdf Aboriginal Cultural Heritage Assessment	11/11/2018	Yes	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att H-Stantec Marine NVA-2024.PDF Marine Natural Values Assessment	24/07/2024	No	High
#2.	Document	Att O-PWOL ECD 2012.pdf Pitt Water Orielton Lagoon Ecological Character Description	29/07/2012	No	Medium

4.1.3.2 (Ramsar Wetland) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D-Stantec Impact Assessment-2024.PDF Marine MNES Significant Impact Assessment	18/08/2024	No	High
#2.	Document	Att L-Ecomarine Summary Report-2024.PDF Live-bearing seastar investigations summary report	11/05/2024	Yes	High
#3.	Document	Att L-Ecomarine Summary Report-2024-REDACTED.pdf Live-bearing seastar investigations summary report	12/05/2024	No	High
#4.	Document	Att O-PWOL ECD 2012.pdf Pitt Water Orielton Lagoon Ecological Character Description	29/07/2012	No	Medium

4.1.3.6 (Ramsar Wetland) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High
#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High
#3.	Document	Att D-Stantec Impact Assessment-2024.PDF Marine MNES Significant Impact Assessment	18/08/2024	No	High
#4.	Document	Att O-PWOL ECD 2012.pdf Pitt Water Orielton Lagoon Ecological Character Description	29/07/2012	No	Medium

4.1.3.8 (Ramsar Wetland) Why you think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D-Stantec Impact Assessment-2024.PDF Marine MNES Significant Impact Assessment	18/08/2024	No	High

4.1.3.10 (Ramsar Wetland) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High
#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High
#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High
#3.	Document	Att C-NBES Impact Assessment-2024.PDF Terrestrial MNES Significant Impact Assessment	02/10/2024	No	High
#4.	Document	Att D-Stantec Impact Assessment-2024.PDF Marine MNES Significant Impact Assessment	18/08/2024	No	High
#5.	Document	Att F-NHRT Response-2024.pdf National Handfish Recovery Team Response	20/06/2024	Yes	High
#6.	Document	Att F-NHRT Response-2024-REDACTED.pdf National Handfish Recovery Team Response	20/06/2024	No	High
#7.	Document	Att G-NBES Terrestial NVA-2024.PDF Terrestrial Natural Values Assessment	19/06/2024	No	High
#8.	Document	Att H-Stantec Marine NVA-2024.PDF Marine Natural Values Assessment	24/07/2024	No	High
#9.	Document	Att K-Ecomarine Translocation Plan-2024.pdf Live-bearing searstar Translocation Plan	12/05/2024	Yes	High
#10.	Document	Att L-Ecomarine Summary Report-2024.PDF Live-bearing seastar investigations summary report	11/05/2024	Yes	High
#11.	Document	Att L-Ecomarine Summary Report-2024-REDACTED.pdf Live-bearing seastar investigations summary report	12/05/2024	No	High

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High
#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High
#3.	Document	Att B-Ecomarine Live-bearing Seastar Assessment-2020.PDF Live-bearing searstar asssessment	05/02/2020	Yes	High
#4.	Document	Att B-Ecomarine Live-bearing Seastar Assessment-2020-REDACTED.pdf Live-bearing seastar investigations summary report	05/02/2020	No	High
#5.	Document	Att C-NBES Impact Assessment-2024.PDF Terrestrial MNES Significant Impact Assessment	02/10/2024	No	High
#6.	Document	Att F-NHRT Response-2024.pdf National Handfish Recovery Team Response	20/06/2024	Yes	High
#7.	Document	Att F-NHRT Response-2024-REDACTED.pdf National Handfish Recovery Team Response	20/06/2024	No	High
#8.	Document	Att L-Ecomarine Summary Report-2024.PDF Live-bearing seastar investigations summary report	11/05/2024	Yes	High
#9.	Document	Att L-Ecomarine Summary Report-2024-REDACTED.pdf Live-bearing seastar investigations summary report	12/05/2024	No	High

4.1.4.8 (Threatened Species and Ecological Communities) Why you think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att L-Ecomarine Summary Report-2024.PDF Live-bearing seastar investigations summary report	11/05/2024	Yes	High
#2.	Document	Att L-Ecomarine Summary Report-2024-REDACTED.pdf Live-bearing seastar investigations summary report	12/05/2024	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att G-NBES Terrestial NVA-2024.PDF Terrestrial Natural Values Assessment	19/06/2024	No	High
#2.	Document	Att L-Ecomarine Summary Report-2024.PDF Live-bearing seastar investigations summary report	11/05/2024	Yes	High
#3.	Document	Att L-Ecomarine Summary Report-2024-REDACTED.pdf Live-bearing seastar investigations summary report	12/05/2024	No	High

4.1.4.11 (Threatened Species and Ecological Communities) Proposed offsets relevant to avoidance or mitigation measures

	Type	Name	Date	Sensitivity	Confidence

#1.	Document	Att L-Ecomarine Summary Report-2024.PDF Live-bearing seastar investigations summary report	11/05/2024	Yes	High
#2.	Document	Att L-Ecomarine Summary Report-2024-REDACTED.pdf Live-bearing seastar investigations summary report	12/05/2024	No	High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att C-NBES Impact Assessment-2024.PDF Terrestrial MNES Significant Impact Assessment	02/10/2024	No	High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D-Stantec Impact Assessment-2024.PDF Marine MNES Significant Impact Assessment	18/08/2024	No	High

4.3.8 Why alternatives for your proposed action were not possible

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-P&S Project Description and SIA- Nov 2024.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	Yes	High
#2.	Document	Att A-P&S Project Description and SIA- Nov 2024-REDACTED.pdf A summary description of the project, natural environment and significant impact assessments to support the referral form.	19/11/2024	No	High
#3.	Document	Att M-p&s Options Report-2023.pdf Options Assessment	31/08/2023	No	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	36388980563
Organisation name	Department of State Growth
Organisation address	4 Salamanca Place, Hobart 7000
Representative's name	Keira Grundy
Representative's job title	

Phone	0361663382
Email	keira.grundy@stategrowth.tas.gov.au
Address	

- [x] Check this box to indicate you have read the referral form. *

- [x] I would like to receive notifications and track the referral progress through the EPBC portal. *

- [x] By checking this box, I, **Keira Grundy of Department of State Growth**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

- [x] I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	36388980563
Organisation name	Department of State Growth
Organisation address	7000 TAS
Representative's name	Elspeth Moroni
Representative's job title	Acting General Manager State Roads
Phone	0455 437 863
Email	elspeth.moroni@stategrowth.tas.gov.au
Address	GPO Box 536, Hobart, TAS, 7001 Australia

- [x] Check this box to indicate you have read the referral form. *

- [x] I would like to receive notifications and track the referral progress through the EPBC portal. *

- [x] I, **Elspeth Moroni of Department of State Growth**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

- [ ] I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

- [x] Check this box to indicate you have read the referral form. *

- [x] I would like to receive notifications and track the referral progress through the EPBC portal. *

- [x] I, **Elspeth Moroni of Department of State Growth**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

- [ ] I would like to receive notifications and track the referral progress through the EPBC portal. *