To:	Planning Authority - Kingborough Council		
Project:	Gordon Jetty Replacement	Date:	9/12/2025
		Job No.	1890
From:	Burbury Consulting		
Subject:	Coastal Hazard Report for Planning Authority		

1. Introduction

This Coastal Hazard Report has been prepared in response to Marine and Safety Tasmania's (MAST) requirement for a planning assessment to support the proposed replacement of the fire-damaged Gordon Jetty. This report addresses relevant provisions of the Kingborough Interim Planning Scheme 2015, in particular, the Waterway and Coastal Protection Code (E.11), and the Coastal Erosion Hazard Code (E16).

The original jetty was built in 1961. Since then, there have been works to support the upkeep of the structure. In September 2023, a significant portion of the jetty was burnt, thereby adversely affecting functionality for users.

The purpose of the proposed works is to provide a refurbished jetty for use by recreational and commercial vessel operators with improvements for user safety, functionality and resilience, while remaining compatible with the existing foreshore and minimising adverse impact to the surrounding environment.

This report should be read in conjunction with the entire Development Application (DA) for the project including reports, drawings and any supplementary information.

1.1 Existing site & surrounds

The site is located within a public boat ramp and jetty owned and operated by MAST. The facility is at Gordon, on the western shore of the D'Entrecasteaux Channel, as shown in Figure 1-1 & Figure 1-2. Access to the public boat ramp and jetty is taken through Esplanade Rd which connects to the Channel Highway. The D'Entrecasteaux Channel is a popular destination for boating activities, and the Gordon jetty is frequently used by recreational and commercial vessel operators.

There is existing infrastructure at the site, including;

- boat ramp,
- rock groyne and
- jetty.

The foreshore north of the site comprises of a mix of rocky shoreline and sand deposits, with the rock breakwater situated to the south of the boat ramp and jetty. An existing rock revetment is located at the abutment of the jetty.

The site is predominantly sheltered from swell waves but more exposed to north-easterly and southerly wind waves. At low tides, accessibility of the boat ramp for launching and retrieval of boats is limited due to the constricted water dept from the accumulation of sediment.

Figure 1-1: Location of proposed Gordon Jetty Replacement

Figure 1-2: Existing site and surrounds at Gordon Jetty

1.2 Site geology review

A desktop geology review has been completed for the site based on the 1:50 000 scale Dover mapsheet (Sheet 8311S), produced by Mineral Resource Tasmania (MRT). The site is dominated by Quaternary age sub and supra-littoral deposits (Qb); dominantly sand, silt, mud and shell fragments. An extract from the Dover mapsheet is provided in Figure 1-3.

It is noted that the shoreline classification (Sharples 2000) highlights that the site consists of artificially filled reclaimed land with permeable artificial shoreline (e.g. riprap). The acceptable recession zones landwards of resilient artificial shores are considered to be manageable and tolerable.

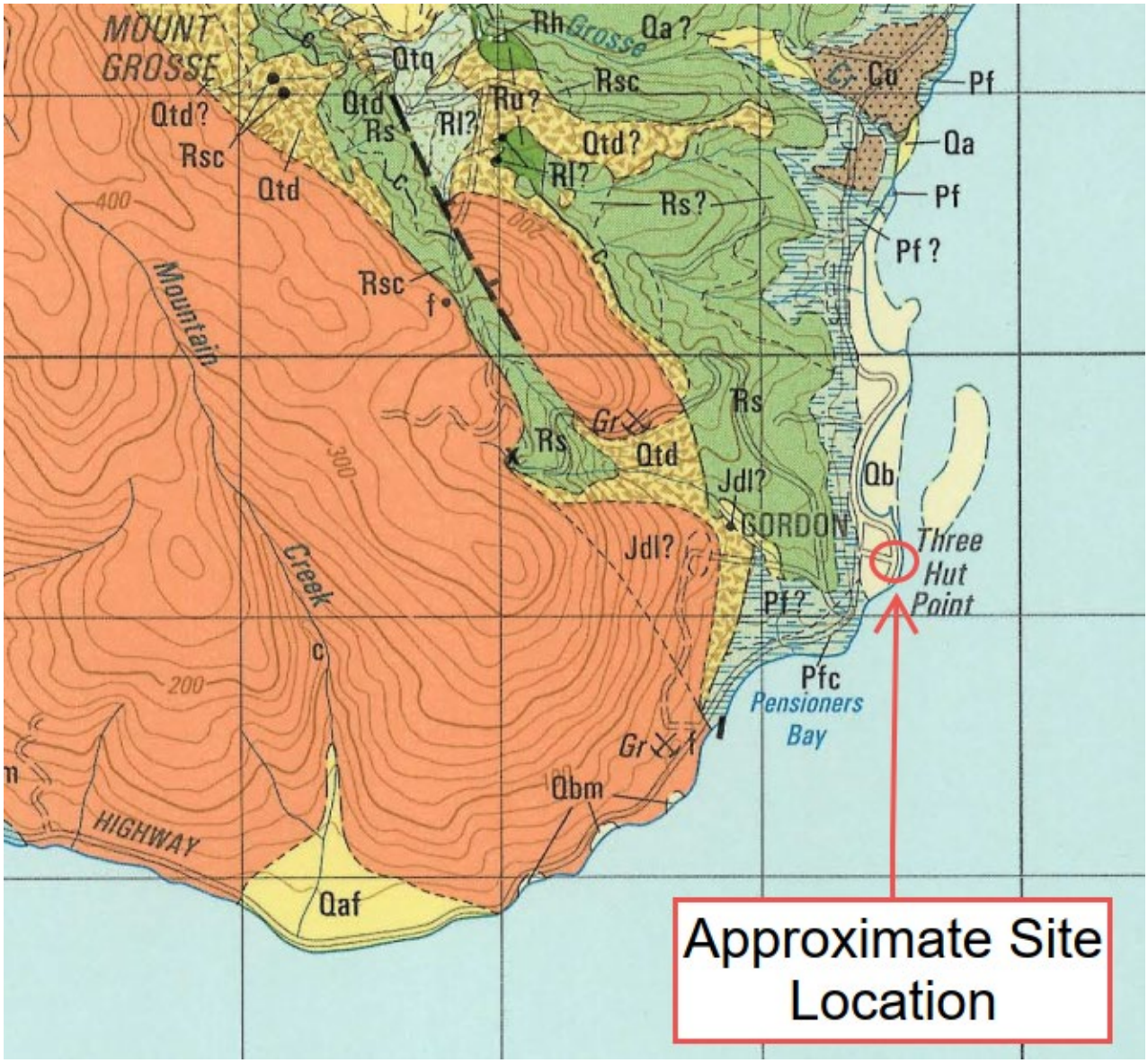

Figure 1-3: Desktop review of site geology (Source: Mineral Resources Tasmania)

2. Proposal

The proposal is for the replacement of the Gordon Jetty to provide a service area for recreational and commercial berthing and stowing of watercraft for use on the adjacent waterway. A general arrangement plan of the proposed works is shown in Figure 2-1 below.

The proposed works will include:

- A replacement and extension of the existing timber jetty with new concrete deck and sleeved steel pile jetty;
- The jetty will consist of a new, slightly larger 'L' shaped jetty, that will extend an additional 5.6m seaward than the previous jetty;
- The proposed jetty will extend approximately 30m from the shore in a south easterly direction and include an 'L' shaped return approximately 12m long towards the north east;
  - be 3m wide with a 2.5m concrete deck with a 1.2m wide FRP low landing;
  - have a deck height of 1.8m AHD;
- A small extension and upgrade to the existing abutment and rock armouring, and a new concrete approach slab will be completed for safe access; and
- Dredging in the region of the boat ramp toe and new jetty

The proposed works is a replacement for existing infrastructure at the site. The jetty is a low impact design, with only localised seabed disturbance for the installation of the piles.

The proposal will require a small extension to the existing shoreline rock revetment, this engineered area is to ensure the protection of the jetty abutment, and enable access to deeper water and allow safe berthing for vessels using the jetty. The reclamation area will be formed using a rock revetment around the perimeter of the area, which will be subsequently filled using engineered specified clean rock fill material. This rock revetment will provide protection for the infrastructure and mitigate erosion impacting on the site. The approach slab it creates will enable safe access and use of the associated works at the site.

The proposed works will be constructed and managed in accordance with current best practices standards for design and construction and will ensure that suitable environmental management controls are in place.

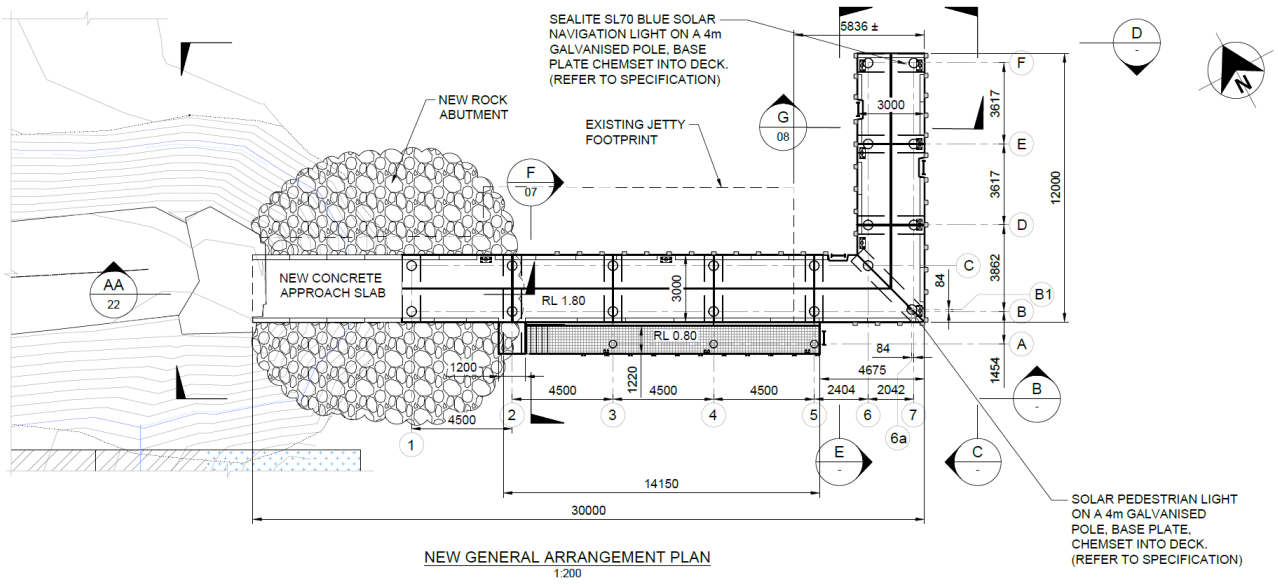

Figure 2-1: Proposed General Arrangement Plan for the Gordon Jetty Replacement

3. About the practitioner and methodology

3.1 Practitioner details

The information provided outlines the details of the person preparing and verifying this report.

Lead / coordinating consultant name	Dave Unwin – Burbury Consulting
Academic Qualification/s	Bachelor of Engineering (Hons)
Relevant Experience	Burbury Consulting is a professional services company based in Hobart providing engineering and project management services in the civil, structural and maritime industries. We have experience of planning assessment and engineering design requirements in coastal projects that extend from land to sea incorporating coastal impact assessments, inundation assessments and addressing planning scheme and regulatory risk-based reviews. We are preferred suppliers in maritime and coastal engineering for Department of State Growth, Tasmanian Ports Corporation and Marine and Safety Tasmania. BC have the expertise to complete the work having completed similar projects and scopes with: • Whitesands Estate Breakwater and boat ramp remediation including site assessments, Coastal hazard report, approvals, RAA and design for remediation; • Swanwick shoreline stabilisation and remediation including emergency works approvals;

	• Prosser River training wall stabilisation project including RAA, approvals, design, tendering and construction management; • Bicheno shoreline remediation and protection works including scoping and approvals support for Glamorgan Spring Bay Council; • Middleton shoreline stabilisation scoping, investigations, and approvals for shoreline protection; • Connellys Marsh property protection works for shoreline protection including site investigations, approvals, design, tendering and construction; • Salicia Nature Park Development coastal assessment for the Planning Authority; • Coastal hazard assessment for the Planning Authority, for sediment (sand) removal in the vicinity of Marine and Safety Tasmania (MAST) boat launching ramp within the entrance to Pipe Clay Lagoon in Cremorne. • Roches Beach coastal stability assessments for properties including specialist input to approvals and design works; and • St Helens Barway Breakwater extension including approvals for rock quarry establishment, rock transport and placement for the breakwater extension, design and construction management. Dave Unwin is a Senior Coastal and Maritime engineer at Burbury Consulting with over 10 years of coastal engineering experience specialising in metocean analysis and wave climate studies, fluid-structure interaction and the detailed design of maritime structures. Dave has undertaken Coastal Hazard Assessments for a range of private and public infrastructure works, in both swell-sheltered and exposed environments.
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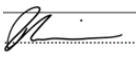
Signature	
Date	9/12/2025

3.2 Methodology

This coastal hazard report has been prepared in accordance with the requirements of the Waterway & Coastal Protection Code and the Coastal Erosion Hazard Code outlined in the Kingborough Interim Planning Scheme 2015 and Director's Determination.

4. Coastal Processes

4.1 Waves

The site lies roughly at the limits of significant swell penetration up the southern part of the D'Entrecasteaux Channel and may periodically be affected by stronger refracted and attenuated southerly swells but generally the site receives minimum swell. The shoreline at the site can be expected to receive more significant locally generated wind-waves under northerly through easterly to southerly wind conditions. The maximum fetch to the north-east is around 10km.

Based on a simple fetch-based wave hindcast, significant wind wave heights of Hs=1m and greater may be experienced at the site under extreme conditions (less than once per year on average). Wind wave periods would typically be less than 4 seconds. The amplitude of swell waves reaching the site under large swell events would be small (less than Hs=0.3m) however, because of the long wave period (up to 15 seconds), surges may be experienced at the ramp.

The construction of any structure within the marine environment has the potential to impact localised wave conditions, either by shielding or reflecting incoming wave energy. The piled jetty is relatively open to water flow and will not measurably modify the incident wave conditions.

Both existing and proposed designs of the jetty similarly incorporate a piled arrangement. Although the proposed jetty rebuild extends further than the existing triangular jetty, the overall footprint area is reduced, as is the number of piles.

At the jetty abutment however, wave energy will impact these elements directly. Typically, steep or vertically faced elements such as sheet pile walls can cause significant reflection of incoming waves. Conversely, a rock revetment (proposed at the site) on a shallow slope (2H:1V) is an excellent means of dissipating wave energy rather than reflecting it back. Accordingly, any potential changes to coastal process due to wave action caused by the reinstatement of the newer jetty structure and the extension of the revetment at the site is expected to be manageable and minimal.

4.2 Water levels and sea level rise

Site specific water level data is not available, however tidal variation from Hobart is typically very minimal within the D'Entrecasteaux Channel. AusTides (Australian Hydrographic Office) shows a reduction of around 200mm in the tidal range at Port Huon relative to Hobart and it is expected that Gordon lies somewhere between the two. Given the Hobart levels would be slightly conservative for high and low tides at Gordon, it would be considered appropriate to adopt the tidal planes for this Project, as shown in Table 4-1.

Table 4-1: Hobart Astronomical Tides (Bureau of Meteorology, 2022) (DNRET, 2011)

Description	Tide	Tidal Plane levels (AHD)
Highest Astronomical Tide	HAT	0.86m
Mean Higher High Water	MHHW	0.68m
Mean Lower Low Water	MLHW	0.17m
Mean Sea Level	MSL	0.05m
Mean Higher Low Water	MHLW	-0.07m
Mean Lower Low Water	MLLW	-0.58m
Lowest Astronomical Tide	LAT	-0.83m

Extreme design high water levels were calculated using the CSIRO Canute 3.0 tool. For planning purposes, a conservative Shared Socioeconomic Pathway (SSP) 8.5 was adopted as the climate scenario in line with current government practice. This resulted in an expected sea level rise of 0.30m over 50 years, relative to 2025 levels.

Table 4-2: Extreme high-water levels, m AHD (Source: CSIRO)

Greenhouse Gas Emissions Scenario		SSCP 8.5		
Sea level rise / ARI (year)	**SLR (relative to 1995-2014 baseline)**	**1**	**10**	**100**
2026	0.084	0.965	1.15	1.33
2051	0.25	1.13	1.31	1.49
2076	0.53	1.41	1.59	1.77

4.3 Currents

Although the site has a relatively low tidal range, it is at a narrow point in the channel and tidal flows can be significant. The CSIRO has undertaken detailed hydrodynamic modelling of the Channel and states, "Maximum current velocities are observed midway up the D'Entrecasteaux Channel at the narrowest point near Gordon and may reach more than 0.5m/s at times (evidence exists in sediment composition at this location to suggest there are persistent strong currents in the region). These currents are predominately tidal in nature..." (Source: CSIRO, 2005).

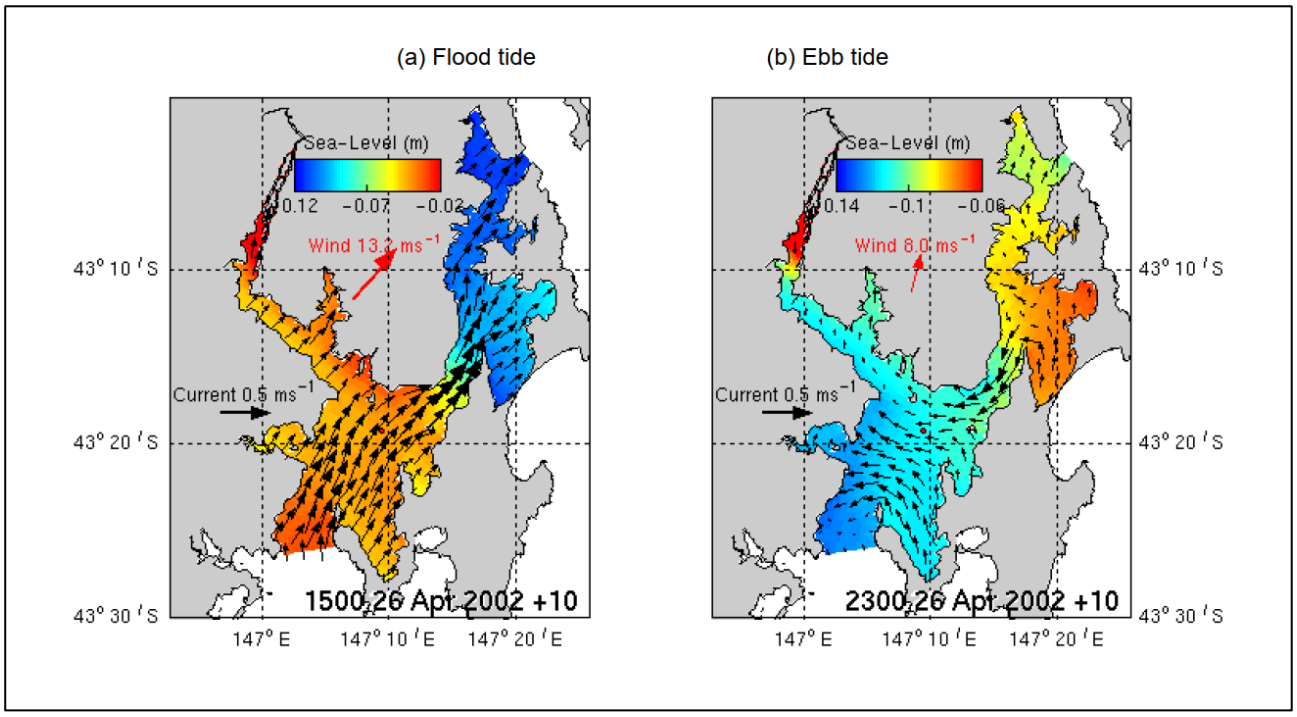


Figure 4-1: Typical tidal currents (Source: CSIRO Numerical Modelling of the D'Entrecasteaux Channel and Huon Estuary)

4.4 Erosion and sedimentation

4.4.1 Geomorphology

Northwards of Three Hut Point for around 1.5km, the shore is immediately backed by a low flat terrace of soft sandy and cobbly sediments which separates the shoreline from rising bedrock slopes (Cygnet Coal Measures Sandstone) further landwards. Extensive shallow subtidal sand flats fringe the terrace offshore. Some coastal protection structures (rock walls) have been constructed along the terrace edge to prevent further erosion.

South of the ramp, Pensioners Bay is a dolerite cobble beach backed by moderately rising slopes underlain by the Cygnet Coal Measures Sandstone. Cobbled beaches backed by bedrock are relatively resilient to erosion and will retreat at a slower rate than the soft sediment terrace to the north.

Away from the shoreline, and in the adjacent marine waters, aerial images indicate significant sand flats to the north of the jetty consisting of mobile sediments which exhibit tidal movement patterns.

Sand flats (Source: ListMap (Esri Imagery), 2022)

4.4.2 Shoreline recession or accretion

Analysis of historical aerial imagery from 1965 to the present day, and of data provided by Digital Earth Australia (DEA) as shown in the figures below, shows considerable sediment movement at the site, with erosion to the north and a buildup of material at the groyne next to the boat ramp. The erosion noted adjacent to the Channel Highway to the north of the site is most likely attributable to sea level rise, with the soft sediment terrace being highly susceptible to erosion. It is noted on the DEA shoreline map (figure 4-2) that it highlights shoreline recession north of the boat ramp & jetty facility.

The 2008 aerial image (figure 4-5) shows the extensive sand flats to the north of the site. By 2022 (figure 4-6), it is evident that the existing breakwater is retaining some of this material, effectively extending the spit formation from the timber jetty to the tip of the rock breakwater.

Figure 4-2: Historical outline of shoreline extent (Source: Digital Earth Australia)

Figure 4-3: Gordon, January 1965 (Source: DPIPWE)

Figure 4-4: Gordon, January 1984 (Source: DPIPWE)

Figure 4-5: Gordon, 2008 (Source: DPIPWE)

Figure 4-6: Gordon, 2022 (Source: ListMap)

4.5 Impact on infrastructure design

A piled structure such as the proposed jetty has a negligible influence on broader coastal processes. Some localised scour may occur immediately adjacent to the piles; however, this will be negligible, and the engineering design of the structure should take this into consideration.

The jetty and associated infrastructure proposed should be designed to accommodate inundation events through adequate drainage or construction type and durability. By adopting a free draining fill material for the reclaimed area, the buildup of pore pressures behind the revetment will be prevented

Wave slamming loads on jetty decks can be extreme, and the deck height adopted for the main wharf structure should be above likely wave crest heights. The nominated deck height of RL=+1.8m AHD is nominally 0.94m above present day Highest Astronomical Tide (HAT) and is unlikely to overtop in normal operating conditions. jetty deck heights are often a balance between providing access to vessels and preventing frequent inundation/overtopping. Consideration should be given in design to the structures to allow for an increase in floor height to adapt to an increase in wave runup should sea level rise lead to more frequent inundation events.

By design, the lower landing at RL=+0.80m AHD will be inundated during HAT. The structure will be designed to reduce wave uplift pressures and appropriately equipped to ensure durability in the marine environment.

Based on the wave climate established in Section 4.1, armour rock of nominally 750mm diameter is required to protect the jetty abutment under the extreme design waves. This armour rock will mitigate the risk of any erosion around the structure and should be terminated into the existing revetment at the shoreline to reduce any risk of end amplification effects.

With a properly engineered rock structure, the coastal erosion risk is manageable, and would be deemed to be tolerable for the type of structure proposed.

Given that the proposed jetty abutment infrastructure is to be founded on engineered fill within a rock revetment and extend seaward at elevation, the jetty does not present a risk of erosion. Ensuring that the rock revetment protecting the reclaimed area is terminated sensibly in shoreline areas not susceptible to erosion (either natural or artificial) will minimise any risk of erosion on the adjacent coastline.

5. References

The following documentation has been referenced in the development of this assessment.

ID	Title	Author	Year
1	Tasmanian Planning Scheme – State Planning Provisions	Tasmanian Planning Commission	2024
2	Interim Planning Scheme – Kingborough Council	Kingborough Council	2015
3	Tasmanian Coastal Works Manual: A best practice management guide for changing coastlines	DPIPWE, & Tasmanian Government	2010
4	Tasmanian State Coastal Policy	Dept. of Premier and Cabinet, Tasmania	1996
5	LIST mapping www.thelist.tas.gov.au	Tasmanian Government	2021
6	CoastAdapt www.coastadapt.com.au	National Climate Change Adaption Research Facility	2016
7	Shoreline Type classifications [OSRA]	Sharples	2000
8	Indicative Mapping of Tasmanian Coastal Vulnerability to Climate Change and Sea-Level Rise	Chris Sharples	2006
9	Canute 3 tool https://shiny.csiro.au/Canute3_0/		-
10	Site bathymetric survey	Marine Solutions	2025

6. Interim Planning Scheme Code Classification

The proposal site is within the following mapped code overlays of the Kingborough Interim Planning Scheme 2015:

- Waterway and coastal protection area; and
- Coastal erosion hazard area (low).

6.1 Waterway and coastal protection code

6.1.1 Jetty and associated works

The proposed works to build a new jetty and associated infrastructure predominantly occur outside the waterway & coastal protection area in the marine waters, however an area of works is proposed in the foreshore zone (highlighted in red in figure 5-1). Consequently, the works trigger the performance criteria requirements within a waterway and coastal protection area under the Code as outlined in the Kingborough Interim Planning Scheme 2015.

Figure 6-1: Kingborough Interim Planning Scheme - Waterway & Coastal Protection Area (Source: ListMap)

6.2 Coastal Erosion Hazard Areas Code

6.2.1 Jetty and associated works

The proposed works to build a new jetty and associated infrastructure predominantly occur outside the coastal erosion hazard area in the marine waters, however an area of works is proposed in the foreshore zone (highlighted in red in Figure 5-2). Consequently, the works trigger the performance criteria requirements within the coastal erosion hazard overlay (low) under the Code as outlined in the Kingborough Interim Planning Scheme 2015.

Figure 6-2: Kingborough Interim Planning Scheme – Coastal Erosion Hazard Overlay (Source: ListMap)

7. Assessment – Interim Planning Scheme Code E11.0

7.1.1 Jetty and associated works

E11.6 Use Standards

There are no use standards in this code.

E11.7 Development Standards

E11.7.1 Buildings and Works

The proposed Jetty and associated works have been assessed against the E11.0 Waterway and Coastal Protection Code. Responses to the relevant development standards are presented below with additional information provided in Section 8.

Objective:

To ensure that buildings and works in proximity to a waterway, the coast, identified climate change refugia and potable water supply areas will not have an unnecessary or unacceptable impact on natural values.

Performance Criteria	Response
P1 ***Building and works within a Waterway and Coastal Protection Area must satisfy all of the following:***	
(a) avoid or mitigate impact on natural values;	The proposed works do not require the removal of terrestrial vegetation or trees. A marine natural values assessment was completed for the site to ascertain the natural values and sensitive marine receptors at the site. No threatened species were detected in the field survey of intertidal and subtidal habitats in the vicinity of the proposed development footprint. • Habitat characterisation for spotted handfish recruitment indicated no intrusion on their critical habitats; and • There were no Gunn's screw shells, which are protected under the *TSP Act*, observed during targeted field surveys. However, some potential impacts may occur relating to temporary disturbance of nearby sediment during seabed re-profiling and pile installation. Measures have been established to effectively mitigate impacts on these values. In summary, the natural values assessment outlines that the proposed development is expected to have minimal impacts on the marine environmental values. Refer to advise in the Marine Solutions Marine Values Assessment, July 2025.

Performance Criteria	Response
(b) mitigate and manage adverse erosion, sedimentation and runoff impacts on natural values;	The proposal is predominantly sited in the adjacent marine waters. The jetty arrangement design requires only minor landside works, with the elevated jetty connecting to the foreshore via a new concrete approach slab and upgraded rock armour, thereby reducing the potential impact of surface runoff. The main jetty structure will be supported on poly-sleeved steel piles with precast concrete headstocks and deck elements, founded on stable seabed conditions, which ensures the works do not present a risk of erosion to the adjacent shoreline. To manage potential sedimentation during construction, seabed disturbance will be confined to the minimum necessary footprint. A Construction Environmental Management Plan (CEMP) will be implemented to mitigate any potential erosion, siltation, and sedimentation impacts during the construction phase, including visual monitoring of sediment plumes and adaptive measures such as silt curtains if required.
(c) avoid or mitigate impacts on riparian or littoral vegetation;	The proposed does not require the removing of any trees/vegetation Refer to advise in the Marine Solutions Marine Values Assessment, July 2025.
(d) maintain natural streambank and streambed condition, (where it exists);	No natural in stream habitat exist at the site. Refer to advise in the Marine Solutions Marine Values Assessment, July 2025.
(e) maintain in-stream natural habitat, such as fallen logs, bank overhangs, rocks and trailing vegetation;	No natural in-stream habitat exist at the site. Refer to advise in the Marine Solutions Marine Values Assessment, July 2025.
(f) avoid significantly impeding natural flow and drainage;	The proposed does not change the natural flow and drainage that exist on site or from the upgradient residential areas. The jetty infrastructure has a design level which is well above HAT at all astronomical tide level and not impeding the natural variances of tidal action.
(g) maintain fish passage (where applicable);	Refer to advise in the Marine Solutions Marine Values Assessment, July 2025
(h) avoid landfilling of wetlands;	Wetlands do not exist at the site. Refer to advise in the Marine Solutions Marine Values Assessment, July 2025.
(i) works are undertaken generally in accordance with Waterways and Wetlands Works Manual (DPIWE, 2003) and Tasmanian Coastal Works Manual (DPIPWE, December 2010), and the	The proposed works have been designed to minimise the civil works and reduce impacts to the site and the extent of

Performance Criteria	Response
unnecessary use of machinery within watercourses or wetlands is avoided.	modification needed to improve the user safety at the site to access and use the proposed jetty. All works need to be completed in accordance with the Tasmanian Coastal Works Manual and the Wetlands and Waterways Works Manual.

E11.7.2 Buildings and Works Dependent on a Coastal Location

Objective:

To ensure that buildings and works dependent on a coastal location are appropriately provided for, whilst minimising impact on natural values, acknowledging the economic, social, cultural and recreational benefits that arise from such development.

Performance Criteria	Response
P1 ***Building and works must satisfy all of the following:***	
(a) need for a coastal location is demonstrated;	The proposed site is being developed to replace the fire-damaged Gordon Jetty. The works are significant to maintain public marine infrastructure for recreational and small commercial vessels in the region. The proposal is in accordance with existing facilities in the surrounding area within the D'Entrecasteaux Channel, which includes other jetties, boat ramps and rock groynes supporting marine activities. The proposed is reliant on a coastal location to fulfil its purpose of providing berthing and loading/unloading access for vessels.
(b) new facilities are grouped with existing facilities, where reasonably practical;	The proposed is situated in an area of the D'Entrecasteaux Channel that already contains established marine facilities. Gordon currently has a public boat ramp, a rock groyne, and remaining structures of the previous fire-damaged structure, which the proposed will replace. Nearby locations such as Woodbridge also have existing jetties, and boat ramps, and the channel itself supports numerous moorings, and aquaculture activities. Grouping the new jetty with the existing facilities ensures continued access for marine users within the Gordon region.
(c) native vegetation is retained, replaced or re-established so that overall impact on native vegetation is negligible;	The proposed jetty replacement and associated works do not require the removing of any trees/vegetation. A marine natural values assessment was completed for the site to ascertain the natural values and sensitive marine receptors at the site. No threatened species were detected in the field survey of intertidal and subtidal habitats in the vicinity of the proposed development footprint.

Performance Criteria	Response
	However, some potential impacts may occur relating to temporary disturbance of nearby sediment during seabed re-profiling and pile installation. Measures have been established to effectively mitigate impacts on these values. In summary, the natural values assessment outlines that the proposed development is expected to have minimal impacts on the marine environmental values. Refer to advise in the Marine Solutions Marine Values Assessment, July 2025.
(d) building design responds to the particular size, shape, contours or slope of the land and minimises the extent of cut and fill;	The jetty will be constructed as fixed structure, and in compliance with Australian Standards, to enable the structure to be functional and safe. The general arrangement of the proposed has been selected to suit the existing foreshore access point and minimise required earthworks. No significant cut or fill is required for the proposed. Minor landside works include upgrades to the existing rock armour, and installation of a new concrete approach slab which will be placed on the existing stable foreshore.
(e) impacts to coastal processes, including sand movement and wave action, are minimised and any potential impacts are mitigated so that there are no significant long-term impacts;	All the proposed works are designed to manage and minimise impacts to coastal processes. Given the low-energy wave environment and the stable foreshore at Gordon, the proposed jetty and associated works will not impact adjacent land. The proposed works will have minimal impact on sand movement and wave action as the jetty is an open piled design that allows natural tidal flow and sediment transport to continue. The extension to the abutment is also not expected to have a significant impact as it is located directly behind the existing rock groyne, where it is sheltered from, and unable to modify sand movement associated with, the predominant wave direction. The proposed works will not significantly alter the existing coastal processes at the site. The site is stabilised with rock armour, making it less susceptible to erosion. Minor seabed disturbance will occur during pile installation and seabed re-profiling, but these activities will be temporary and localised. Refer to advise in the Marine Solutions Marine Values Assessment, July 2025.
(f) waste, including waste from cleaning and repairs of vessels and other maritime equipment and facilities, is managed in accordance with current	No vessel cleaning and repairs are planned to be completed at the Jetty site.

Performance Criteria	Response
best practice so that significant impact on natural values is avoided.	
P2 ***Dredging or reclamation must satisfy all of the following:***	
(a) be necessary to establish a new or expanded use or development or continue an existing use or development;	The proposed works include minor seabed re-profiling to restore functionality of the Gordon Jetty. Re-profiling is required to remove accumulated sand to the boat ramp and jetty berthing area which has reduced the navigable depth. Refer to advise in the Marine Solutions Marine Values Assessment, July 2025. The proposed is in accordance with existing marine facilities within the D'Entrecasteaux Channel, including boat ramps, jetties, and moorings. The proposed works rely on a coastal location to perform its function for safe and efficient access for recreational and commercial vessels.
(b) impacts on coastal processes that may lead to increased risk of inundation, including sand movement and wave action, are minimised and potential impacts are mitigated so that there are no significant long-term impacts;	The proposed works do not involve the construction of any infrastructure that would significantly alter coastal processes. The adjacent foreshore consists of a rock groyne and a stable shoreline, which provides stability and resilience against erosion. Consequently, there would be minimal to negligible impact on sand movement and wave actions at the site

8. Assessment – Interim Planning Scheme Code E16.0

8.1 Jetty and associated works

E16.6 Use Standards

Not Applicable for this proposal

E16.7 Development Standards for Buildings and Works

As the proposal site has been classified as within a coastal erosion hazard band (low band), it is required to be assessed against the E16.0 Coastal Erosion Hazard Code. Responses to the relevant use and development standards are presented below with detailed information provided in Section 9.

E15.7.1 Buildings & Works

Development Standards for Buildings and Works	Criteria	Response
E16.7.1 To ensure that development in Coastal Erosion Hazard Areas is fit for purpose and appropriately managed based on the level of exposure to the hazard.	P1 (a), (b), (c), (d), (e), (f), (g), (h), (i) and (j)	Responses to the Performance Criteria P1 are detailed in Section 9 of this report (coastal hazard report).

E16.7.2 Development Dependent on a Coastal Location

Development Standards for Buildings and Works	Criteria	Response
E16.7.2 To ensure that buildings and works dependent on a coastal location are appropriately designed and sited to account for risk of erosion, taking into account the nature of the development.	P1 (a), (b), (c), (d) , (e), (f) and (g) P2 (a), (b) and (c),	Responses to the Performance Criteria P1, and P2 are detailed in Section 9 of this report (coastal hazard report).

9. Conclusions about the proposal

9.1 Likelihood of the proposed use or development to cause or contribute to the occurrence of coastal erosion on the site or adjacent land.

The proposed jetty consists of a facility than is nominally perpendicular to the shoreline, it will be built on an engineered rock revetment and on poly-sleeved steel piles with precast concrete headstocks and deck elements founded on stable seabed conditions. Given the shoreline at the site is resilient because of artificial protection the proposed infrastructure will not impact erosion on the adjacent land.

An extension to the revetment zone is required to protect the new abutment. The requirement to have an access that can meet the levels of the jetty is essential for the safe operations of the Gordon facility. The hardened foreshore from the revetement will dissipate wave action on the foreshore and will be designed so that wave rebound will be absorbed into the rock structure rather than be directed further along the coastal profile.

The jetty has been designed by a coastal engineer to a level above Highest Astronomical Tide (HAT) and projected sea level rise so that no significant differential in water level can occur across the structure, and the jetty will not constrict or inhibit the natural flow of water. The lower landing section is intended to be inundated during tidal variations and will be designed to withstand the appropriate uplift loading.

The site is not a significant source of sediment for the D'Entrecasteaux Channel, and any modifications to the site will have a minimal impact on the geomorphology of the estuarine system. Minor seabed levelling required for vessel access will be localised and short in duration, with mitigation measures outlined in the Marine Solutions Natural Values Assessment (July 2025) incorporated into a Construction Environmental Management Plan (CEMP) to manage turbidity and protect adjacent natural values and marine habitats.

9.1.1 Jetty and associated works

Can the proposed use or development achieve and maintain a tolerable risk for the intended life of the use or development, having regard to the following:

Items	Response
The nature, intensity and duration of the use.	The nature, intensity and duration of the use as a jetty have no impact on the development achieving and maintaining a tolerable risk of erosion. The proposed works are intended to reinstate safe and functional marine access for vessels, consistent with historic use of the site.
The type, form and duration of any development.	The jetty has been designed to be a raised structure that can maintain a tolerable risk for the intended life of the development. The proposed works are considered a low-impact solution, which has minimal effect on coastal processes and the function of the existing use at the site. Construction activities will be undertaken intermittently and confined to the minimum footprint necessary to complete the works, with environmental controls in place.
The likely change in the risk across the intended life of the use or development.	The design of the jetty and associated infrastructure is such that it will accommodate expected sea level rise throughout its design life. There has been no known suggestion for expected increases in functional capabilities – such as increased berthing capacities for larger vessels than usual, or increased traffic to and from – the jetty and associated works in the foreseeable future.
The ability to adapt to a change in the level of risk.	Given the jetty and associated infrastructure is designed to manage erosion, there is no foreseeable change to the level or risk of erosion. The design and location of the jetty is on a hard rock shore with minimal vulnerability to flooding or erosion. The acceptable recession zones landwards of rocky shores are considered to be manageable and tolerable. The design of the jetty structure will ensure the structure will have a design life to maintain a tolerable risk to erosion.
The ability to maintain access to utilities and services.	The proposed jetty has no impact on access to utilities and services on the adjacent land. The proposed works will improve the safety of users accessing the jetty
The need for specific coastal erosion or coastal inundation hazard reduction or protection measures on the site.	The reclamation area is a design requirement to protect the integrity of the infrastructure. The engineered area will provide some protection for

	the shoreline, while acknowledging that a degree of natural shoreline process will continue to occur.
The need for coastal erosion or coastal inundation reduction or protection measures beyond the boundary of the site.	Not required
Any coastal erosion or coastal inundation management plan in place for the site or adjacent land.	Not required

9.2 Ongoing Management

9.2.1 Jetty and associated works

Rock revetments are inherently flexible structures, and some minor movement should not affect the function of the structure.

Minor maintenance of the jetty structures may be required after exposure to the coastal elements after some time which will require management to maintain safe operating conditions.

A natural buildup of sediments may periodically occur at the toe of the boat ramp which could require management to maintain operating water depths.

No ongoing management is required regarding the risk of inundation.

We would recommend monitoring the jetty structure after installation to monitor any potential changes to the concrete approach slab foundations.

It is possible that some localised scour may be seen at the toe of the revetment. It is expected that the design will be sufficient to mitigate this, however we would recommend monitoring this after any extreme wave event.

MAST as the owner and operator of the Gordon boat ramp and jetty facility will ensure adequate management and design of the proposed works and that they will be undertaken in accordance with best practice procedures and in compliance with Australian Standards, to enable the structure to be functional and safe.

9.3 Is the use or development located on an actively mobile landform within the coastal zone?

☐ Yes ☒ No

9.3.1 Jetty and associated works

The jetty and associated works are not considered to be located on an actively mobile landform.

From a coastal engineering perspective, the proposed works do not involve the construction or modification of any infrastructure that would impact the landward accretion of sand dunes. The foreshore is a highly modified area, and no sand dunes are present to be impacted.

9.4 Conclusions relating to any matter specifically required by Performance Criteria in the Waterway and Coastal Protection Code (E11.0) or the Coastal Erosion Hazard Code (E16.0)

9.4.1 Jetty and associated works

The coastal assessment identifies that the proposed jetty, will have negligible impacts to the existing coastal processes, tidal and flood aspects of the site.

It should be outlined that the jetty and associated infrastructure are reliant on a coastal location. The proposed works will not constrict or inhibit the natural flow of water. The low landing area of the jetty structure will be inundated at high water levels however this will not impact inundation of the surrounding area.

Given the structures are designed for inundation, there is no foreseeable change to the level or risk of inundation.

The risk of localised increase to scour/erosion at the toe of the piles and revetment is low but should be monitored post-construction.

The rate of shoreline recession should be monitored to ensure that effects of the planned jetty remain outside of any unstable zones where there is significant sand accretion or recession recorded.

The nature, intensity and duration of the use as a jetty will have no impact on the development achieving and maintaining a tolerable risk of erosion.

This coastal hazard assessment identifies that the proposal will have minimal impacts to the existing coastal processes, tidal and flood aspects of the site.