32-34 Georges Bay Esplanade
St Helens Tasmania 7216
T: 03 6376 7900 | ABN 96 017 131 248

Break O'Day COUNCIL

Development Applications

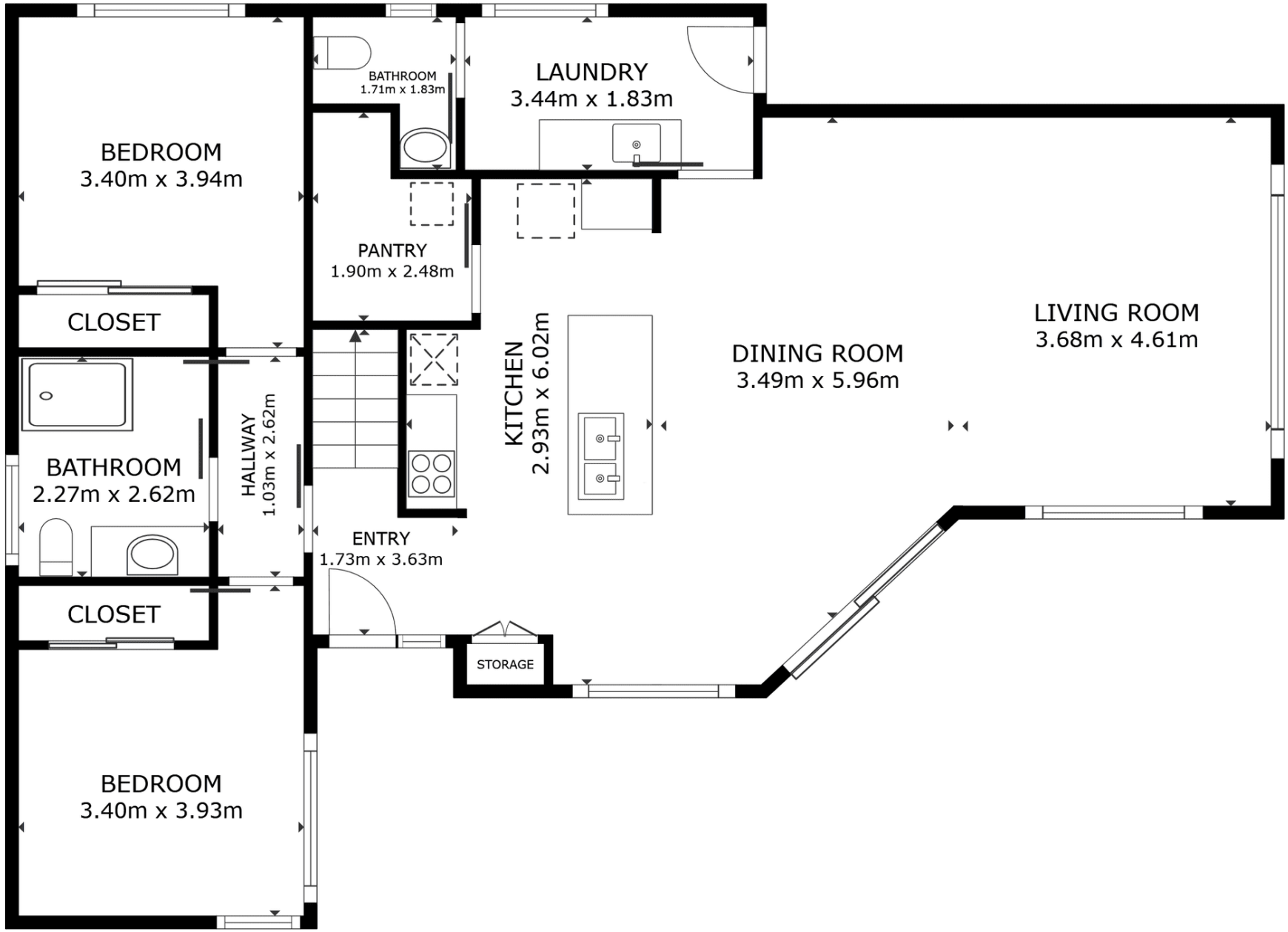
Notice is hereby given under Section 57(3) of the *Land Use Planning & Approvals Act 1993* that an application has been made to the Break O' Day Council for a permit for the use or development of land as follows:

DA Number	DA 2025 / 00164
Applicant	HR & Co Investments Pty Ltd
Proposal	Visitor Accommodation - Additional Use for Visitor Accommodation
Location	169a Main Road, Binalong Bay (CT 154575/2)

Plans and documents can be inspected at the Council Office by appointment, 32 – 34 Georges Bay Esplanade, St Helens during normal office hours or online at www.bodc.tas.gov.au.

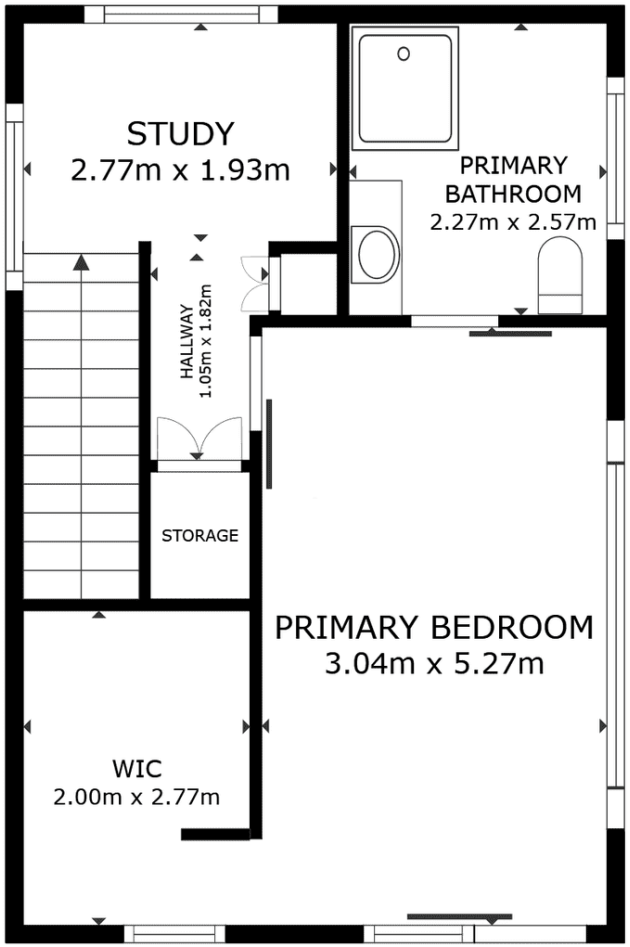
Representations must be submitted in writing to the General Manager, Break O'Day Council, 32 -34 Georges Bay Esplanade, St Helens 7216 or emailed to admin@bodc.tas.gov.au, and referenced with the Application Number in accordance with section 57(5) of the abovementioned Act during the fourteen (14) day advertised period commencing on Saturday 21st February 2026 **until 5pm Tuesday 10th March 2026.**

John Brown
GENERAL MANAGER



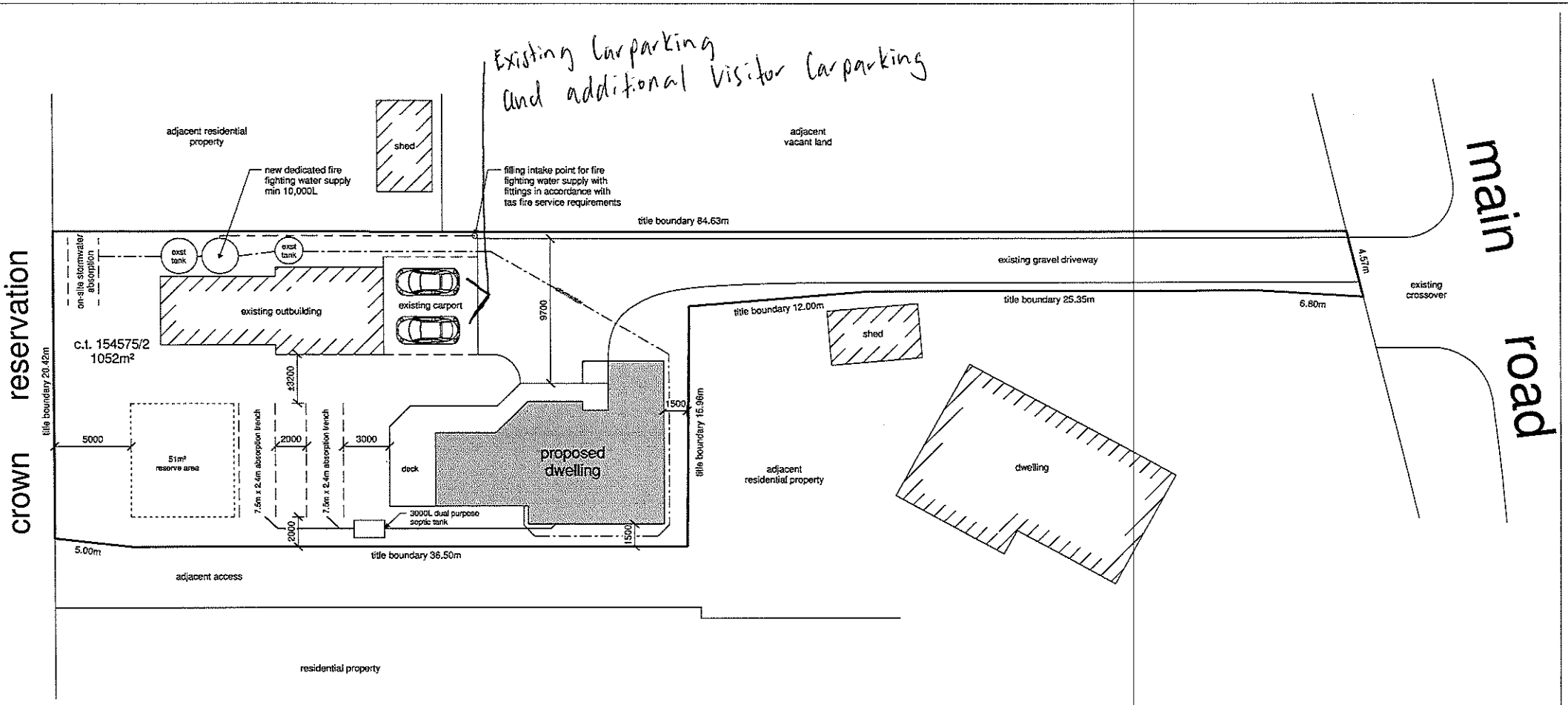
FLOOR 1

GROSS INTERNAL AREA
FLOOR 1 108.8 m² FLOOR 2 40.9 m²
TOTAL : 149.7 m²
SIZES AND DIMENSIONS ARE APPROXIMATE, ACTUAL MAY VARY.



FLOOR 2

GROSS INTERNAL AREA
FLOOR 1 108.8 m² FLOOR 2 40.9 m²
TOTAL : 149.7 m²
SIZES AND DIMENSIONS ARE APPROXIMATE, ACTUAL MAY VARY.



1 site plan
1 : 250

PROJECT:
proposed dwelling
FOR:
l + d wilson
169a main road
binalong bay tasmania 7216

DRAWING TITLE:
site plan

SCALE:	DATE:
1 : 250	feb 27 2014
DRAWING NO: a02	PROJECT NO: 1013WI

DRAWN BY:

jennifer binns
BUILDING DESIGN
MEMBER
building designers association of tasmania
level 1 / 48 cecilia street
st helens tasmania 7216
03 6376 2588 / 0439 755 452
jenniferbinns@bigpond.com
accreditation no: CC 1269L

GES

GEO-ENVIRONMENTAL

SOLUTIONS

COASTAL VULNERABILITY ASSESSMENT

PROJECT:

Additional Use for
Visitor Accommodation

Site Address:

169a Main Road
Binalong Bay
TAS 7216

CLIENT:

HR & Co Investments Pty Ltd
atf the Gray Group

DATE:

8/12/2025

DOCUMENT CONTROL

Document Prepared By:

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W: geosolutions.net.au

DOCUMENT CONTROL		
Report Title:	169a Main Road Binalong Bay TAS 7216	
Project Type:	Coastal Vulnerability Assessment	
Client:	HR & Co Investments Pty Ltd atf the Gray Group	
Project Job Number:	J12310	
Revision Version:	V01	
Date:	8/12/2025	
Approved By:	V. Gupta	
	Signature:	Date
		8/12/2025

FIGURES

EXECUTIVE SUMMARY

Geo-Environmental Solutions Pty Ltd (GES) were contracted by HR & Co Investments Pty Ltd atf the Gray Group Trust prepare a Coastal Vulnerability Assessment for an existing dwelling proposed to be converted to visitor accommodation at Binalong Bay. The proposed works are located within cadastral title (CT – 154575/2) located at 169a Main Road, Binalong Bay TAS 7216.

The project area is within the coastal erosion investigation overlay. GES has undertaken investigation of the study area in order to assess the current conditions of the shoreline. The aim is to categorize the site based on the Coastal Erosion Hazard Bands, utilizing the methodology provided by the DPAC (Department of Premier and Cabinet), Office of Security Emergency Management, Version 1.0, dated 01 Jan 2021 which is applicable for Tasmanian Planning Scheme - Break O'Day Council (TPS). The field data sheet is provided in Appendix 1 for reference and further details.

The project site is located in the rural area of Binalong Bay, situated in the northeastern region of Tasmania, within the local government of Break O'Day. The site is positioned alongside the sheltered Grants Lagoon, which is shielded from ocean swells and primarily exposed to onshore winds. The project area is approximately 38 meters away from the shoreline, and the coastal environment in this vicinity is notably stable. GES conducted a review of historical aerial imagery, which confirmed that there have been no noticeable alterations in the shoreline over the past three decades.

The shoreline along the project area could be characterized as a typical deltaic and salt marsh shore. It relies on the presence of dense vegetation, a common feature for lagoons. Only if the existing vegetation and dense trees were to be removed, would the shoreline become vulnerable to erosion of the soft sediments. Given the current condition of the shoreline, GES has estimated that potential erosion could extend up to 22 meters by the year 2100 under a 1% Annual Exceedance Probability (AEP) scenario.

Following the site inspection, GES performed a coastal hazard band assessment for the site, which confirmed that the site does not fall within a coastal erosion overlay. Moreover, it was determined that the site is located in an area with an acceptable level of hazard risk. Given that the site is not designated within a coastal erosion overlay, no further assessment is necessary as the risk of coastal erosion is considered acceptable for the 1% Annual Exceedance Probability (AEP) scenario in the year 2100.

List of Abbreviations

AHD (83)	Australian Height Datum
AEP	Annual Exceedance Probability
ARI	Average Reoccurrence Interval
CEM	Coastal Engineering Model
CEHC	Coastal Erosion Hazard Code
CIHC	Coastal Inundation Hazard Code
DCP	Dynamic Cone Penetrometer
DEM	Digital Elevation Model
DPAC	Department of Premier and Cabinet
ERMP	Erosion Risk Management plan
GES	Geo-Environmental Solutions Pty Ltd
GIS	Geographical Information System
IPCC	Intergovernmental Panel on Climate Change
LiDAR	Light Detection And Ranging
LIST	Land and Information System, Tasmania
MRT	Mineral Resources Tasmania
NCCOE	National Committee on Coastal and Ocean Engineering
SB	Soil Bore
SPM	Shoreline Protection Manual
SSP	Surf Similarity Parameter
SWAN	Simulating Waves Nearshore
TPS	Tasmanian Planning Scheme
WRL	Water Research Laboratory (University of New South Wales)

1 INTRODUCTION

Geo-Environmental Solutions Pty Ltd (GES) were contracted by HR & Co Investments Pty Ltd atf the Gray Group Trust prepare a Coastal Vulnerability Assessment for an existing dwelling proposed to be converted to visitor accommodation at Binalong Bay. The proposed works are located within cadastral title (CT – 154575/2) located at 169a Main Road, Binalong Bay TAS 7216.
An application to conduct construction works has triggered the assessment in accordance with the Tasmanian Planning Scheme (TPS) – Break O'Day Council and following of the Director's Determination for Coastal Erosion areas which provides building requirements for building and demolition work in coastal erosion hazard area.

GES has undertaken investigation of the study area in order to assess the current conditions of the shoreline. The aim is to categorize the site based on the Coastal Erosion Hazard Bands, utilizing the methodology provided by the DPAC (Department of Premier and Cabinet), Office of Security Emergency Management, Version 1.0, dated 01 Jan 2021 which is applicable for Tasmanian Planning Scheme (TPS). The field data sheet is provided in Appendix 1 for reference and further details.

GES have undertaken this assessment using available scientific literature and datasets. Estimations are determined by approximation with appropriate regional information applied where appropriate to site specific information. Data collection and site-specific modelling was undertaken in assessment of the site.

2 OBJECTIVES

The objective of the site investigation is to:

- Identify coastal erosion bands and categorise the site in the relevant Coastal Erosion Hazard Band in accordance with the methodology provided by DPAC;
- Identify which codes need to be addressed in terms of coastal vulnerability and identify the performance criteria relevant to the project which need addressing;
- Used geological mapping and site inspections to determine site physical conditions;
- Where applicable, provide recommendations on methods and design approach to mitigate erosion impact.

3 STUDY AREA

The project area is situated at a rural locality of Binalong Bay in the local government area Break O'Day in the North – east of Tasmania. It is located about 12 kilometres northeast of the town of St Helens. The study area is located on the south side of the Grants Lagoon (refer to Figure 1). The site is occupied by an existing dwelling and an outbuilding. The proposal is to change the use of the existing dwelling to visitor accommodation. No further developments are planned.

The existing residential dwelling is located more than 60m from the High-water mark (HWM).

Figure 1 - Location of the study area marked in red.

4 Planning

4.1 Australian Building Code Board

This report presents a summary of the overall site risk to coastal erosion processes. This assessment has been conducted for the year 2073 which is representative of a 'normal' 50-year building design life category based on a 2023 baseline (ABCB 2015).

Per the Australian Building Code Board (ABCB 2015), when addressing building minimum design life:

> *'The design life of buildings should be taken as 'Normal" for all building importance categories unless otherwise stated.'*
>
> As per Table 3-1, the building design life is 50 years for a normal building.

Table 3-1 Design life of building and plumbing installations and their components

Building Design Life Category	Building Design Life (years)	Design life for components or sub systems readily accessible and economical to replace or repair (years)	Design life for components or sub systems with moderate ease of access but difficult or costly to replace or repair (years)	Design life for components or sub systems not accessible or not economical to replace or repair (years)
Short	1 < dl < 15	5 or dl (if dl<5)	dl	dl
Normal	50	5	15	50
Long	100 or more	10	25	100

Note: Design Life (dl) in years

4.2 State Coastal Policy

On 16 April 2003 the State Coastal Policy Validation Act 2003 came into effect. This Act replaces the former definition of the Coastal Zone in the State Coastal Policy 1996 and reinstates the Policy. The Act also validates all previous decisions made under the Policy. The following clauses are pertinent to the scope of this report:

1.1. NATURAL RESOURCES AND ECOSYSTEMS

1.1.2. The coastal zone will be managed to protect ecological, geomorphological and geological coastal features and aquatic environments of conservation value.

1.4. COASTAL HAZARDS

1.4.1. Areas subject to significant risk from natural coastal processes and hazards such as flooding, storms, erosion, landslip, littoral drift, dune mobility and sea-level rise will be identified and managed to minimise the need for engineering or remediation works to protect land, property and human life.

1.4.2. Development on actively mobile landforms such as frontal dunes will not be permitted except for works consistent with Outcome 1.4.1.

1.4.3. Policies will be developed to respond to the potential effects of climate change (including sea-level rise) on use and development in the coastal zone.

4.3 The Tasmanian Building Regulations 2016

4.3.1 Building in hazardous areas

As outlined in the Department of Justice web site:

http://www.justice.tas.gov.au/building/building-and-plumbing/building_in_hazardous

Hazardous areas include areas which are bushfire prone, comprise reactive soils or substances, or are subject to coastal erosion, coastal flooding, riverine flooding, and landslip.

4.3.2 Division 4 - Coastal erosion. Section 58. Works in coastal erosion hazard areas

(1) A person must not perform work in a coastal erosion hazard area unless he or she is authorised to do so under the Act.

(2) If a person intends to perform work in an investigation area of a coastal erosion hazard area, the person must, before performing the work, ensure that the land is classified in accordance with the coastal erosion determination (a) as being an acceptable risk;

(3) A responsible person for work being performed in a coastal erosion hazard area must ensure that the work is being performed in accordance with the Act and the coastal erosion determination.
(4) A person performing work in a coastal erosion hazard area must ensure that the work complies with the Act and the coastal erosion determination.

4.4 Tasmanian Planning Scheme Overlays – Break O'Day Council

4.4.1 Coastal Erosion Hazard Code Overlay (CEHC)

The project area is located in the coastal erosion investigation area (Figure 2). GES has conducted the site visit to find more information about the site coastal vulnerability, review a coastal erosion hazard bands and classify accordingly. More detail in Section 5 Coastal Erosion Investigation Area Site Assessment.

Figure 2 Coast Erosion Bands Relevant to the Site (The LIST)

5 COASTAL EROSION INVESTIGATION AREA ASSESSMENT

5.1 Site assessment methodology

GES has undertaken the site investigation to categorise the site relevant Coastal Erosion Hazard Band in accordance with the provided methodology by DPAC, Office of Security Emergency Management V1.0 (Dated 01 Jan 2021). The field data sheet presented in Appendix 1 for reference and further details. The method described above is a commonly employed approach for conducting investigations in coastal areas to gather detailed information about the site. It serves as a valuable tool for guiding the coastal assessment process. GES utilizes this method to gain insights into the site's characteristics, vulnerabilities, and potential risks associated with wave energy and erosion.

5.1.1 How exposed is the site to waves?

The study area is situated within the coastal vicinity of Grants Lagoon, separated from Binalong Bay beach by a narrow strip of vegetation-covered sand. The project site occupies the southwestern part of the lagoon. The lagoon's shoreline is densely inhabited with vegetation, serving as a natural barrier against strong winds within the lagoon area. During the evaluation of coastal processes, it was established that the project site is shielded from ocean swells. The dense vegetation surrounding the lagoon acts as a natural protection, making the site located on the sheltered Grants Lagoon, which remains unaffected by swells and predominantly exposed to onshore winds. Consequently, the project area is appropriately classified as a sheltered beach (please refer to Figure 3 and Figure 4).

Figure 3 Looking west from the shoreline next to the site.

Figure 4 Looking northeast from the shoreline

5.1.2 Is the ground mainly sand, gravel, clay or rocks?

The ground conditions play a significant role in determining the susceptibility of the site to coastal erosion. It is important to consider the thickness of the soil or sand layers above the underlying ground materials, which can vary and make it difficult to identify the actual ground type.

To determine the coastal ground classification of the project area, online mapping and field observation by walking along the shoreline were utilized. Coastal vulnerable features were identified, and the shoreline was categorized accordingly. The geology of the area is mapped as stream alluvium, swamp, and marsh deposits (MRT, 1:25,000).

There is a limited of comprehensive studies regarding coastal erosion in lagoons with swamp or marsh deposits. Based on the prior classification, the study area's shoreline is primarily composed of muddy sediment deposits, which have gradually accumulated from sedimentation. Typically, deltaic sediment shores of this nature tend to slowly advance seaward over time. The erosion of muddy shorelines differs from sandy shores in that the eroded materials are not readily redeposited on the shore.

As existing methods do not specifically stipulate requirements for lagoons, GES has adopted the position that the potential erosion for this particular area could extend up to 22 meters by the year 2100 under a 1% Annual Exceedance Probability (AEP) scenario. The accompanying photos below depict the current shoreline conditions at the site, characterized by a muddy shoreline with dense vegetation (Figure 5 and 6).

Figure 5 Typical shoreline of the project area.

Figure 6 Typical shoreline.

5.1.1 Is the site flat, slopping, or on cliff?

The erosion type and speed that is likely to occur at the site is influenced by its slope. The topography area around the shoreline is a flat along the coast with a gentle slope halfway to the site which is approx. 5-10°. The slopes are very densely vegetated with trees, shrubs, and weeds. A typical slope is presented in Figure 7 and Figure 8. The slope was calculated using Lidar Data and QGIS software. Mapping was based on field observations made by walking along the study area's shoreline.

Figure 7 Typical shoreline near the project area

Figure 8 Typical shoreline of the project area

How close is your site to the mean high-water mark?

The highest regular wave wash line on the shore during normal weather is known as the Mean High-Water Mark (MHM). The Figure 9 below display a typical HWM feature characterized by vegetation. The proposed works are located more than 38m from the HWM which was determined using online tools to measure the distance from the LIST. The shoreline is vegetated with no exposure to the soils.

Figure 9 The shoreline with potential high-water mark

5.2 Assess your site's hazard band classification.

The map below in Figure 10 displays the estimated coastal erosion band for the study area. Coastal erosion modelling and spatial data can assist in identifying properties that are susceptible to erosion at varying degrees of risk. After the site investigation and considering all important features GES classified the project area to the low hazard band for coastal erosion in the Grants Lagoon, swell-protected coastal defence zones:

- Low Hazard Band (HWM to 22m)
- Acceptable Hazard Band (>20m)

Figure 10 Proposed coastal erosion band for the study area.

6 CONCLUSIONS

The project area is situated on the southwest portion of Grants Lagoon, making it largely unaffected by swells and primarily exposed to fetch winds. GES has reviewed a historical aerial image and has confirmed that there have been no observable changes in the shoreline over the past three decades. The lagoon shoreline looks stable around the site because of very dense vegetation. There are indications of possible erosion due to factors like the lower elevation, sea level rise, and the possibility of future floods around the coastline.

The shoreline is very reliant to vegetation, which should be protected as much as possible to keep the same conditions of the coastline in long term. As the project area are located more than 50m away from the coastline they are unlikely to have a direct impact on the shoreline. GES has established from the assessment that there is not a credible risk of erosion impacting the proposed works on the site, and it is acceptable risk for 2100 (1% AEP). The proposed works are not located on the mobile land. GES do not have any specific recommendations for the proposed works apart of the regular maintenance.

7 LIMITATIONS STATEMENT

The following limitations apply to this report:

- Climate Futures Light Detection and Ranging (LIDAR) digital elevation model is used for the site modelling;
- The values estimated in this report provide an order of magnitude for assessing climate change impacts and in particular climate change induced sea level rise impacts. The information is based on a collation of existing information and data, with some site specific modelling for planning purposes.

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Appendix 1 Coastal Investigation Data Sheet

COASTAL EROSION INVESTIGATION AREA – SITE ASSESSMENT
Guide to conducting a site assessment in a Coastal Erosion Investigation Area

Data sheet

Please record the results of your site assessment in this data sheet and include any other supporting information and photographic evidence.

CONTACT INFORMATION

Name	Geo – Environmental Solutions		
Phone	03 6223 1839	Mobile or other phone	
Email	office@geosolutions.net.au		
Are you the landowner?	☐ YES	■ NO	

SITE ADDRESS

Street number and name	169a Main Rd
Suburb or town	Binalong Bay TAS 7216

1. HOW EXPOSED IS THE SITE TO WAVES? *(see page 6-7)*

1.1 How would you categorise the swell exposure of your site? (select one)

☐ Swell-exposed	■ Swell-sheltered

1.2 In which of the four coastal regions is your site located? (select one)

☐ North Coast	■ East Coast	☐ Storm Bay	☐ South and West

ACTION Please attach and label TWO or more photographs and other information:
☐ 1: General photos that provide evidence of the swell exposure of your site
☐ 2: Photos taken from your site looking out to sea, any surrounding islands or estuary

2. IS THE GROUND MAINLY SAND, GRAVEL, CLAY OR ROCK? *(see page 8)*

2.1 How would you categorize the ground on your site? (select one)

☐ Soft, sandy or loose	■ Coarse boulder clay	☐ Soft rock	☐ Sandy beach backed by hard rock	☐ Hard rock

2.2 Is your site protected by a man-made coastal defence, such as a seawall? (select one)

☐ Yes – resilient (estimated lifespan more than 10 years)	☐ Yes – non-resilient (estimated lifespan less than 10 years)	■ No protection

ACTION Please attach and label TWO or more photographs and other information:
1: Photos that provide evidence of the type of ground on your site
2: Photos and information about any manmade coastal defences protecting your site, if present

COASTAL EROSION INVESTIGATION AREA – SITE ASSESSMENT

Guide to conducting a site assessment in a Coastal Erosion Investigation Area

3. IS THE SITE FLAT, SLOPING OR ON A CLIFF? *(see page 9)*

How would you categorise the slope of your site? (select one)	
■ Flat to moderate slope	☐ Steep or on a cliff

ACTION Please attach and label TWO or more photographs and other information:

☐ 1: Photos that provide evidence of the slope of your site

☐ 2: Any other supporting information, including the method used to calculate slope

4. HOW CLOSE IS YOUR SITE TO THE MEAN HIGH WATER MARK?

What is the shortest distance from the Mean High Water Mark to the boundary of your site?

38 metres (estimate to the nearest metre)

ACTION Please attach and label TWO or more photographs and other information: 1: Photos that support your estimate of distance to the Mean High Water Mark 2: A description that notes the exact distance of your site from Mean High Water Mark

☐

☐

5. ASSESS YOUR SITE'S HAZARD BAND CLASSIFICATION

Use answers to the questions above to find the relevant Hazard Band in in Appendix A. (select one)

HIGH	MEDIUM	LOW	■ ACCEPTABLE

6. CERTIFICATION AND SIGNATURE (APPLICANT)

Date	09/12/2025
Name	V. Gupta
Signature	

Appendix 2 Acceptable Solutions

Coastal Erosion Hazard Assessment

This coastal erosion hazard report has been prepared in general accordance with methodology specified in the Directors Determination – Coastal Erosion Hazard Areas pursuant to section 20(3)(b) of the Building Act 2016 and regulation 51 of the Building Regulations 2016 (Document Version 1.2 Dated 27 September 2021).

This report has been prepared by Vinamra Gupta who has more than 7 years' experience as a Geotechnical Engineer. Vinamra has a master's degree in civil engineering. In his role at GES, he prepares technical reports such as Geotechnical Reports in accordance with AS1726 including Coastal Vulnerability Assessments, Stormwater Assessment, Landslip Assessments in Accordance Australian Geomechanics Guidelines (AGS 2007) and Site Classification Reports as per AS2870.

Practices used in this assessment are developed from recent literature, including regional public domain remote sensing, wave, sea level, and storm tide modelling data obtained through various government agencies. This data is refined to a local (site scale) using detailed bathymetry models and methods within the coastal engineering manual (CEM) as well as equations obtained from recent publications to determine wind setup, wave setup, and wave runup which is specific to the coastal setting.

Specific determinations regarding coastal hazard reporting as presented in the Director's Determination - Coastal Erosion Hazard Areas, Division 2, Section 4 'Coastal Hazard Reporting' are presented in the Table below.

Signature

Vinamra Gupta
Senior Geotechnical Engineer

Works in a Coastal Erosion Hazard Area

According to this director's determination, the following regulations are applicable for the works in a coastal erosion hazard area:

(1) The AS 2870 site classification of any land located in a coastal erosion hazard area must be Class P, on the basis that it may be subject to coastal erosion.

(2) A coastal erosion hazard report must be prepared.

(3) The design of the building footing system must be prepared by an engineer-civil.

(4) The building design (including footing system) must take into account the coastal erosion hazard report.

(5) In determining an application for a Certificate of Likely Compliance, the building surveyor must:

(a) take into account the coastal erosion hazard report and any relevant coastal erosion management plan; and

(b) be satisfied that the proposed work will not cause or contribute to coastal erosion on the site or on adjacent land; and

(c) be satisfied that the proposed work can achieve and maintain a tolerable risk for the intended life of the building without requiring any specific coastal erosion protection measures; and

(d) be satisfied that the proposed work will not be located on actively mobile landforms, except where the work relates to protection measures or remediation works to protect land, property or human life.

(6) In determining an application for a permit, the permit authority must take into account the coastal erosion hazard report and any relevant coastal erosion management plan