

Amended Draft Environmental Impact Assessment Report

Proposed Development of the Granger Bay Precinct and Reclamation of Land at the V&A Waterfront in Cape Town, Western Cape

DEA&DP Ref: 16/3/3/2/A7/4/3051/25

VERSION: AMENDED DRAFT FOR PUBLIC COMMENT
PUBLICATION DATE: 16 July 2026

PREPARED FOR
V&A Waterfront Holdings Pty (Ltd)

Written comments should be submitted to the Environmental Assessment Practitioner, Jeremy Rose or Kaylyn Heinrich of Infinity Environmental, at the details below or online at **www.infinityenv.co.za/public/grangerbay**

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DOCUMENT DETAILS

PROPOSED DEVELOPMENT OF THE GRANGER BAY PRECINCT AND RECLAMATION OF LAND AT THE V&A WATERFRONT: AMENDED DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

APPLICANT

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ENVIRONMENTAL ASSESSMENT PRACTITIONER

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Report purpose

This Environmental Impact Assessment (EIA) Report is prepared in accordance with the EIA Regulations, 2014 (as amended). The purpose of the EIA Report is to:

- Present the details of and need for the proposed project;
- Describe the affected environment, including the planning context, at a sufficient level of detail to facilitate informed decision making;
- Provide an overview of the EIA Process being followed, including public consultation;
- Assess the predicted positive and negative impacts of the project on the environment;
- Provide recommendations to avoid or mitigate negative impacts and to enhance the positive benefits of the project;
- Provide an Environmental Management Programme (EMPr) for the design, construction and post-construction phases of the project.

Authors

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Internal Review

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VERSION HISTORY

Date	Version
18 March 2026	Draft
16 July 2026	**Amended Draft**

Title: Proposed Development of the Granger Bay Precinct and Reclamation of Land at the V&A Waterfront: Amended Draft Environmental Impact Assessment Report

Report status: **Amended Draft**

DECLARATION OF EAP'S INDEPENDENCE

I, Jeremy Rose, appointed by V&A Waterfront Holdings Pty (Ltd) as Environmental Assessment Practitioner for the proposed expansion of the Granger Bay Precinct at the V&A Waterfront, hereby declare that the information provided in this report and supporting documentation is complete and correct to the best of my knowledge; that other than fair remuneration for work performed in terms of this application I have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; that I have disclosed, to the Applicant, the specialist(s), the Competent Authority and registered interested and affected parties all material information that have or may have the potential to influence the decision of the Competent Authority; that I have ensured that information in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments; and that I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.



Jeremy Themba Rose BSc Hons, Reg. E.A.P. 2019/1116, Pr.Sci.Nat 120148
Infinity Environmental (Pty) Ltd: Director & Principal EAP
12 years' experience in environmental management (CV in Appendix A)

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EXECUTIVE SUMMARY

Introduction

V&A Waterfront Holdings (Pty) Ltd. ("the applicant" or "the V&A Waterfront") proposes to reclaim land and construct coastal protection infrastructure to support new mixed-use development in the Granger Bay Precinct, which lies east of Beach Road and north of Granger Bay Boulevard in Cape Town (Figure 0-1). The proposal includes the replacement of existing coastal defence structures with a new revetment and breakwaters, and reclamation of land from Table Bay landward of these new structures, as well as new mixed-use development in the area landward of the existing coastal defence infrastructure.

Amended Draft EIA Report

Since the publication of the previous Draft Environmental Impact Assessment (EIA) Report in March 2026, substantial new information has been added to project documentation in response to comments received. Additions include:

- *A **Construction Noise Impact Assessment (NIA)** has been conducted by an acoustic engineer (**Appendix B10**). These findings have been incorporated throughout this report and the Environmental Management Programme (EMPr) (Appendix D), where relevant;*
- *The **Wave and Hydrodynamic Modelling Report** by PRDW (Appendix G2) has been **updated** to include:*
  - *Analysis of the wave dynamics in the Waterclub Marina for extreme events (475-year scenario);*
  - *Clarifications and background on longshore sediment transport dynamics;*
  - *Sensitivity tests to confirm confidence in the model simulation period for long-waves.*
- *Accordingly, WML Coast has **updated** the **Oceanography Impact Assessment** to incorporate the above-mentioned information (Appendix B5);*
- *The **Visual Impact Assessment** has been **updated** with 3D renderings of proposed building parcels in front of existing apartments at the Waterclub Marina (Appendix B8);*
- *The **Transport Impact Assessment** has been updated to include construction-phase haul route considerations and various clarifications and amendments (Appendix B9);*
- *The final version of the **Heritage Impact Assessment** and the **Heritage Western Cape final comment** have been incorporated as Appendix B6 and Appendix C2, respectively; and*
- ***Cumulative impacts** have been expanded upon with specific reference to nearby proposals undergoing simultaneous EIA processes for the same applicant.*

This amended EIA Report is made available for public comment following the addition of substantive new information in accordance with the EIA Regulations of 2014 (as amended). The EAP requested an extension to the regulated timeframe for the submission of the Final EIA Report, which was granted by DEADP on 10 June 2026 extending the final submission date by 180 days.

Significant revisions or additions in this report are indicated by italic text.

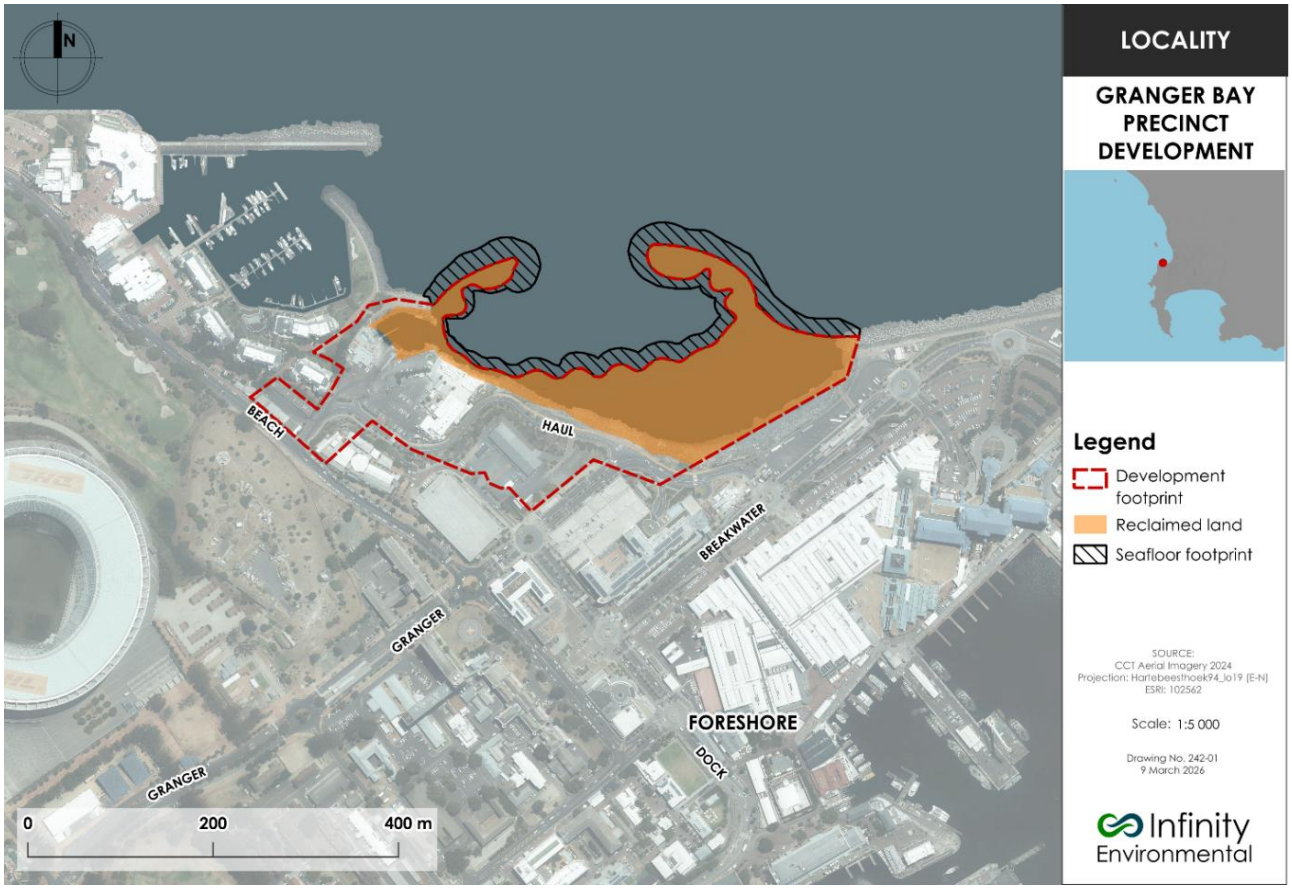


Figure 0-1: Locality map of the site and proposed land reclamation area

Project Overview

Coastal Amenities and Mixed-Use Development

The proposed development incorporates the reclamation of approximately *3.8* hectares of land* from Table Bay to accommodate new coastal public amenities and new mixed-use development. This reclamation will be protected by a new permanent rock revetment and two ('east' and 'west') breakwaters with armoured rock slopes forming a new protected bay approximately three hectares in extent. The west breakwater will extend approximately 90 metres into Table Bay, and the east breakwater approximately 140 metres. A revetment connecting the two breakwaters will be approximately 540 metres long, with the breakwaters and inner revetment together comprising the seafloor footprint as shown in Figure 0-2. The proposed revetment and breakwaters will be constructed over an approximately three-year period.

New public amenities will include the new bay, providing sheltered waters for boating, kayaking, and swimming. Land-based amenities will include a coastal public walkway, a slipway, a fixed quayside, a landscaped promenade, tidal pools, pedestrian paths, and open areas. Access to the coastline is a key principle of the development, as envisaged in the Integrated Coastal Management Act. The development plans include a new coastal public walkway and a landscaped promenade, which allow for an uninterrupted coastal boardwalk from the V&A Waterfront through Granger Bay to connect via Beach Road with the Sea Point Promenade. This will be accessible to the public in the same way that the other public areas in the Waterfront are open to the public.

* **As measured from the existing cadastral boundary.** ***Previous versions of this figure measured from the low-water mark.***

New mixed-use development is proposed on the portion of the site currently located within 100 metres of the highwater mark, which will accommodate residential, hotel, leisure, and commercial uses, with residential accommodation options such as hotels, serviced apartments, and private apartments. The orientation and massing of buildings will respond to the coastal setting and maximise outward views of the ocean. Approximately 78,000 m^2 of bulk will be allocated from the existing development rights permitted within the V&A Waterfront. Development rights are already in place for a portion of the Granger Bay precinct not included in this Scoping and EIA. *A rezoning land use application was also concluded in January this year. The approval allows a maximum additional floor space of 440,000 m² beyond the existing approved development bulk within the V&A Waterfront as a whole. Should the timing of implementation of the proposed Granger Bay precinct result in the take-up of any the additional floor space approved as part of the rezoning application, the relevant conditions of that rezoning approval will apply at that stage.*



Figure 0-2: Proposed development (Preferred Alternative).

Service Infrastructure

The Granger Bay development will be supported by various transport modes, including MyCiTi, Park & Ride, and micro-mobility services, with enhanced integration between these modes. No major access road upgrades are proposed. Additional transport network-related mitigation measures may be applicable in terms of the conditions of the 2025 municipal land use approvals, but only for any portion of the proposed development which does not utilise the pre-existing development rights held by the V&A Waterfront. These measures will be determined by the City of Cape Town and are not detailed here.

The proposed development will be serviced by existing municipal and V&A Waterfront service infrastructure, with no bulk upgrades required. Potable water will be supplied via the City of Cape Town's Molteno distribution zone, which has sufficient capacity to meet the estimated demand of ±222 kℓ/day, with future supplementation anticipated from the V&A Waterfront's desalination plant. Wastewater (±211 kℓ/day) will be conveyed to the municipal sewer network within the Green Point Marine Outfall catchment, and it is anticipated that, in the longer term, it may be treated by a new wastewater treatment plant to be constructed by the V&A Waterfront. Solid waste will continue to be processed through the V&A Waterfront's established waste-handling facilities, which currently have sufficient capacity.

Electricity will be provided via a new on-site distribution network linked to existing 11 kV infrastructure, which the City has confirmed can accommodate the development. Confirmation of the City's service capacity can be found in **Appendix H,** which confirms sufficient unallocated capacity exists.

Stormwater management will rely on the V&A Waterfront's self-contained system, designed to discharge directly to the ocean. Existing outfalls will be extended or realigned to integrate with the new revetment, with additional protection provided by flap valves and overflow pipes to prevent backflow. The system emphasises stormwater quality treatment rather than quantity attenuation, using measures such as grassed swales, silt and litter traps, and oil separators to meet municipal pollution-reduction targets.

Site Location

The Granger Bay Precinct lies east of Beach Road and north of Granger Bay Boulevard. The coordinates of the site are provided below (Table 0-1). The proposed site includes a portion of Erf 173712 seawards of the 100m setback from the highwater mark, a portion of Erf 177853 (undeveloped land between Erf 173712 and the highwater mark), and land to be reclaimed from the sea below the highwater mark (Figure 0-1). The site, inclusive of the proposed reclaimed land and the proposed new bay, is approximately 107 550 m^2 in extent.

This site is located within the V&A Waterfront, a popular recreational urban area and tourist destination located southeast of Mouille Point and adjacent to Fort Wynyard. The proposed site is bordered by Beach Road to the southwest, Granger Bay Boulevard to the southeast and Haul Road to the northeast. The proposed site is located approximately 21km from the Cape Town International Airport and approximately 4km from the Cape Town Central Business District (CBD).

Table 0-1. Site details

Property numbers	173712	177853
SG Digit Codes	C01600070017371200000	C01600070017785300000
Coordinates of the centre	33° 54' 2.55" S; 18° 25' 4.60" E	
Extent of the site	±107 550 m^2 (including reclaimed land and bay)	
Current zoning	Mixed Use 3	

Project Motivation

As confirmed in the Climate Change Impact Assessment (Appendix B1), extreme weather events in combination with sea-level rise are anticipated to increase the strain on existing coastal protection infrastructure. This section of shoreline is already degraded, consisting of a rocky beach with remnants of previous fill material. The site experiences significant overtopping during winter storms, as shown in the image below (Photograph 0-1). Current access to the shoreline exists in the form of the timber walkways and existing slipway at the Oceana Power Boat Club (OPBC).

The current proposal aims to meet the need for improved coastal protection infrastructure, which would unlock the underutilised coastal site to be further developed within an existing strategic urban node and increase its appeal as a tourist destination. The design includes new public coastal amenities, providing improved public access to the coastline as envisaged in the Integrated Coastal Management Act. The new bay and associated facilities will be managed in a way that intentionally considers the needs of existing marine operators and local businesses, to allow for a more integrated ground floor space that seamlessly connects customers with ocean experiences. Furthermore, the proposed coastal amenities have the potential to contribute to the local and regional economy in the form of approximately 822 job opportunities annually, and a contribution of around R322.3 million to the country's Gross Domestic Product annually.



Photograph 0-1. Overtopping of rock revetment at approximately 15:00 on 13 July 2020. Photo credit: Stephen Luger. PRDW, 2025 - extracted from the PRDW Wave and Hydrodynamic Modelling Study.

Access to the ocean via the existing slipway has been retained in the proposed new slipway, given the recognized social and historical importance of the slipway. A key mitigation measure that has been included in the Environmental Management Programme (**Appendix D**) and the recommended conditions of approval (Section 8.6) is that the new proposed slipway is constructed prior to the existing slipway being decommissioned, ensuring uninterrupted access during the construction of the proposed development. Heritage informants such as the Arc of Fire and view lines from Fort Wynyard have been incorporated into the design of the proposal.

A significant potential negative impact identified in relation to the proposal is the possibility of the abandonment by the Heaviside dolphin population of the broader Granger Bay area, due to the indirect impact this would have on the marine tourism economy. However, the marine mammal specialist has a higher confidence in the dolphins' return over time given the prior evidence of return for similar construction projects.

The proposed Granger Bay development aligns with provincial and municipal planning frameworks and responds to an underutilised coastal site within a strategic urban node. It enhances public access, strengthens tourism and economic activity, incorporates climate resilience measures, and maintains heritage sensitivities. Although environmental and construction-related impacts are

anticipated, these are capable of mitigation to acceptable levels. On balance, the proposal demonstrates need and desirability in terms of socio-economic benefit, spatial appropriateness and long-term sustainability, subject to the recommended mitigation measures.

Legislative Requirements

Due to the nature and location of the proposed development, an environmental authorisation (EA) is required in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA). Section 24 of NEMA provides for the listing of activities that may have a negative environmental impact and which require EA prior to commencement. Three Environmental Impact Assessment (EIA) Listing Notices were published in 2014 (GN R. 983 to 985, as amended) to identify these activities and specify the type of assessment process required. Since activities from Listing Notice 2 are proposed, this application follows a **Scoping and EIA process** in terms of the 2014 EIA Regulations, as amended. The competent authority for the Scoping and EIA process is the provincial authority, the **Western Cape Department of Environmental Affairs and Development Planning (DEA&DP).**

Listed Activities applicable to the proposed development:

- Listing Notice 1 (GN 327 of 2017): Activity 9, 15, 17 and 19A
- Listing Notice 2 (GN 325 of 2017): Activity 14, 23 and 26

The proposed development will also require ministerial and parliamentary approval for the reclamation of land in terms of the Integrated Coastal Management Act (Act 24 of 2008) to accommodate new coastal public amenities and coastal protection infrastructure. An application for the pre-approval of land reclamation has been made to the national Minister of Forestry, Fisheries and the Environment, and the consideration of this application has run in parallel with the Scoping and EIA Process. More details of the integration of these two processes can be found in *Figure 1-6*.

Purpose of this Report

The objectives of the EIA process, according to the EIA Regulations, are to:

- determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
- describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the development footprint on the approved site as contemplated in the accepted scoping report;
- identify the location of the development footprint within the approved site as contemplated in the accepted scoping report based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
- identify the most ideal location for the activity within the development footprint of the approved site as contemplated in the accepted scoping report based on the lowest level of environmental sensitivity identified during the assessment;
- determine the nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and degree to which these impacts—
  - can be reversed;

  - may cause irreplaceable loss of resources, and
  - can be avoided, managed or mitigated;
  - identify, assess, and rank the impacts the activity will impose on the development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity; and
- identify residual risks that need to be managed and monitored

The above objectives are to be met through a consultative process incorporating inputs from environmental specialists, government departments, and the interested and affected public.

Environmental Impact Assessment Process

EIA is the second part of the S&EIA process, which is graphically illustrated in Figure 0-3. The primary objective of the EIA Report is to assess the impacts identified in the Scoping Report. The EIA builds on the Scoping Report, providing information on the aspects of the project that result in negative or positive impacts, the significance of these impacts before and after mitigation, as well as mitigation measures for negative impacts and enhancements for positive impacts, where possible.

The purpose of the EIA process is to:

- Address issues that have been identified through the Scoping Process;
- Assess alternatives to the proposed activity comparatively;
- Assess all identified impacts and determine the significance of each impact; and
- Recommend actions to avoid/mitigate negative impacts and enhance benefits.

This report, including the relevant specialist reports, is made available for a 30-day commenting period, and will be further refined where required based on comments received. The scientific and technical assessment by the EIA and technical teams is complemented and tested through consultation with state departments that administer related legislation, and public participation by the public and interested and affected parties, including nearby landowners and occupiers.

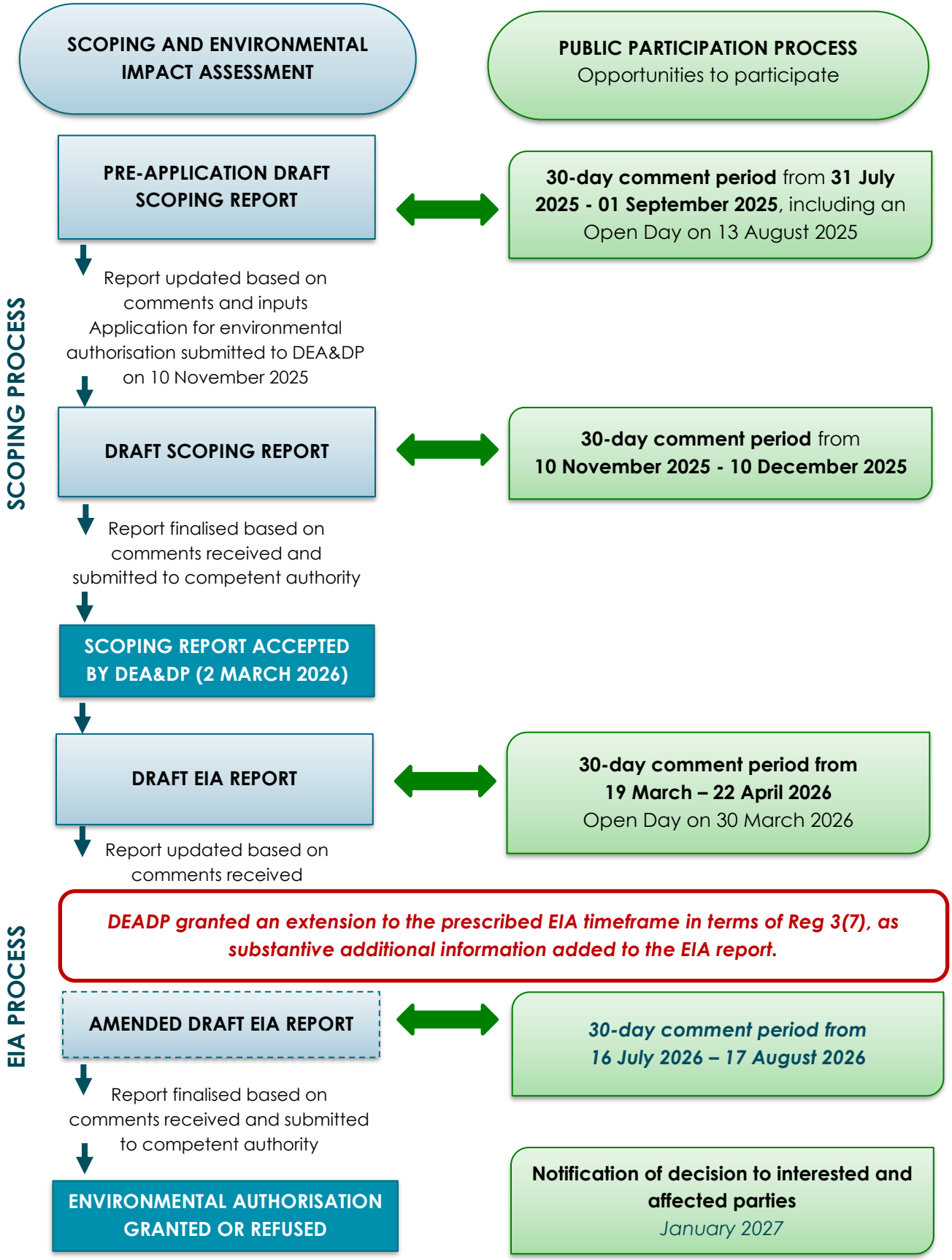


Figure 0-3: Overview of the Scoping and EIA Process and associated public participation

Environmental Sensitivities

Marine biodiversity

Construction will result in the direct loss of artificial rocky shore habitat, specifically that of the Granger Bay dolosse, and adjacent subtidal sandy and reef habitat (NBA 2018 Cape Mixed Shore ecosystem). Soft sediment habitats will be lost, and pelagic open water habitat will be disturbed by the development during both construction and operation. The loss of habitat cannot be avoided within the reclamation footprint**.** Mitigation measures to manage the impact of activities associated with the development are included in the EMPr (**Appendix D**).

Heritage resources

Heritage resources make up the rest of the sensitivities for the site. None of these sensitivities constitute No-Go areas, but they have either been considered as design informants where specific avoidance or compliance is necessary; or where impacts on resources are unavoidable, mitigation measures have been included to minimise and manage the negative impacts of the proposed development on these resources.

Visual sensitivities

The Arc of Fire: the historic arc of fire from a gun emplacement at Fort Wynyard, where no buildings may exceed a height of 21.5m in the arc is a heritage sensitivity that has informed the design of the proposed development in regard to heights and massing.

Water's edge view: The primary character component of any significance present is the spatial and visual contact with the water's edge (IIIA). The 30-metre-wide view corridor from the main gun emplacements to the coastline needs to be kept open to ensure a visual linkage between Table Bay and Fort Wynyard.

Archaeological sensitivities

Pre-colonial archaeological material could survive under the later landfill along the former coastline within the Granger Bay Land Reclamation project site. Given the rarity of such survivals of pre-colonial material in the developed urban context of this part of the city, the archaeological significance and value of any such sites or materials is likely to be high. There is a possibility that at least some shipwrecked vessels may be located within the project area, although their exact location is unknown. It is possible that unmarked burials could be present in the same areas of the site that may be archaeologically sensitive.

Social sensitivity

Many of the fishermen who use the slipway belong to communities who were forcibly removed from Cape Town (District 6, Sea Point) and have a long-standing tradition of using the facility to launch their boats. Access to the slipway is regarded as being of high significance to these fishermen (IIIC heritage grading). A new slipway is planned to be constructed to replace the existing slipway, but the transition between the operation of the current and the new slipway needs to be carefully managed, and access for vessels to the ocean needs to be maintained.

Noise environment

*The unique nature of the proposed reclamation presents the potential for significant noise disturbance as part of the marine construction activities. Consequently, nearby apartment buildings within the Waterclub Marina have been identified as sensitive noise receptors. Despite this, the noise impact assessment (**Appendix B10**) confirms that the adjacent Waterclub Marina is already located within an elevated urban waterfront acoustic environment influenced by existing road traffic, recreational marine activities, harbour operations, helicopter movements and general Waterfront*

activity. The predicted construction noise impacts are superimposed upon an existing daytime ambient noise climate that is already relatively high. The construction of the western breakwater, new slipway and jetty represent the worst-case scenario for potential noise disturbance.

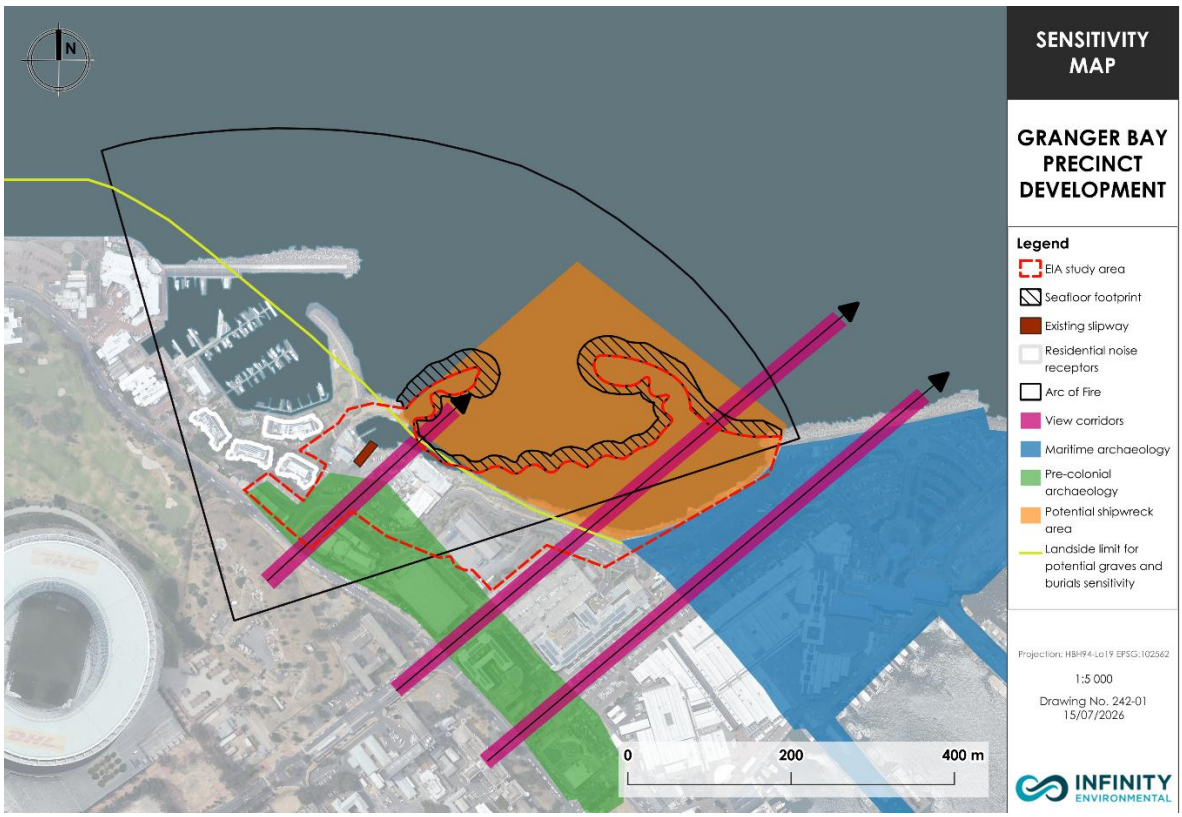


Figure 0-4: Proposed development superimposed on terrestrial and marine sensitivities

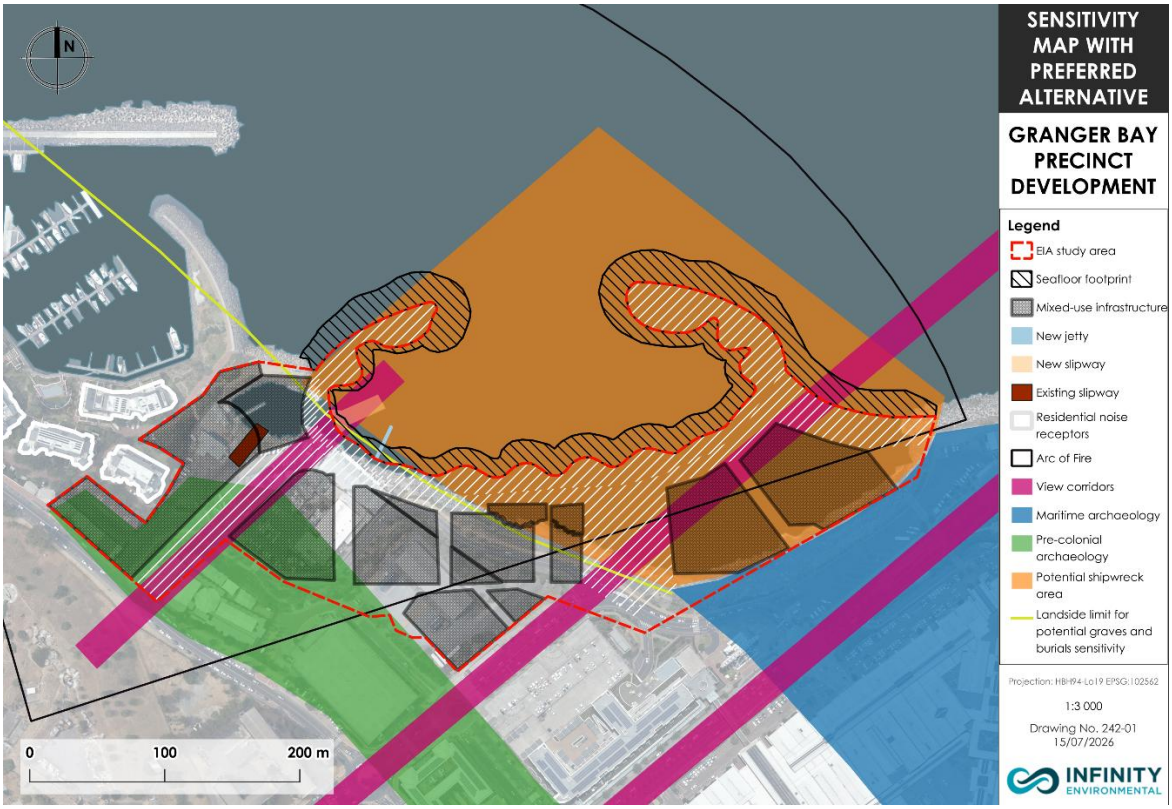


Figure 0-5: Proposed development infrastructure superimposed on terrestrial and marine sensitivities

Impact Assessment

The specialist studies and statements conducted to inform this impact assessment are listed below. All impacts identified and assessed, as well as the proposed mitigation measures and management actions can be found in Chapter 6. In addition, all the mitigation and management measures proposed by the specialists, including those additional impacts and management measures identified by the EAP have been included in the EMPr (**Appendix D** of this report). Specialist reports are included in **Appendix B** of this report.

Name	Qualifications and registrations	Role	Organisation
Kaylyn Heinrich	B.Sc. Hons, Cand. EAP, Cand.Sci.Nat.	Candidate EAP	INFINITY ENVIRONMENTAL
Jeremy Rose	B.Sc. Hons, Reg. EAP 2019/1116, Pr.Sci.Nat 120148 (Environmental Science)	Environmental Assessment Practitioner (EAP)	
Tarryn Solomon	B.Sc., Reg. EAP 2019/1671	EAP (Internal review)	
Cindy Postlethwayt	B Soc Sci MCRP APHP Pr.Plan.	Heritage Practitioner	Cindy Postlethwayt
Megan Anderson	Pr.L.Arch	Visual Impact Assessment Specialist	Megan Anderson Landscape Architects
John Gribble	M.A. ASAPA	Archaeological Impact Assessment Specialist	TERRAMARE ARCHAEOLOGY
Enrique Julyan	MSc Eng Pr Eng	Oceanographic Impact Assessment Specialist	WML COAST CONSULTING ENGINEERS
Amy Wright	MSc Pr.Sci.Nat	Marine Impact Assessment	ANCHOR environmental
Megan Jackson	MSc		
Dr Adam Rees	PhD Pr.Sci.Nat		
Dr Barry Clark	PhD		
Dr Simon Elwen	PhD	Marine Mammal Specialist	SEA SEARCH
Alex Kempthorne	MCRP SAPOA	Socio-economic Assessment	URBAN-ECON Development Economists
Mwajuma Kamanzi	MCom (Economics)		
Sergei Kiewiet	BSc Engineering (Civil)	Transport Impact Assessment	Motion CONSULTING ENGINEERS
Philippa Burmeister	Pr.Sci.Nat Reg.EAP		

Name	Qualifications and registrations	Role	Organisation
Gareth van der Walt	B.Eng. (Chem)	Climate Change Impact Assessment	srk consulting
Joss Cahi	Hydrologist		
Demos Dracoulides	*M.Sc. Mech. Eng.*	*Noise Impact Assessment*	DDA Environmental Engineers

Construction Phase Impacts

Table 0-2 summarises the overall significance of the impacts assessed for the construction phase, following the implementation of the recommended mitigation and management measures for each alternative.

Table 0-2. Key impacts and mitigation measures assessed in the EIA

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
MARINE ECOSYSTEM IMPACTS				
Disturbance of intertidal and subtidal artificial habitat: rocky habitat	**Essential mitigation measures:** • **Limiting the duration of construction activities in the coastal zone; and** • **Constraining the spatial extent of impacts to the minimum required.**	**Very Low Negative**	**Very Low Negative**	**None**
Disturbance of intertidal and subtidal artificial habitat: soft sediment habitats		**Very Low Negative**	**Very Low Negative**	**Neutral**
Impacts of construction on West Coast Rock Lobster	**Essential mitigation measures:** • **Constrain spatial extent of impacts to the minimum required.** Recommended mitigation measures: • Implement phased removal, and potential translocation of individuals from high-density zones.	**Low negative**	**Low negative**	**Neutral**
Disturbance to pelagic open water habitats	**Essential mitigation measures:** • **Limit duration of construction activities in the coastal zone.** • **Constrain spatial extent of impacts to the minimum required.**	**Very Low Negative**	**Very Low Negative**	**Neutral**
Effects of construction waste generation and disposal on marine ecosystems	• Inform and train all staff about sensitive marine species and the responsible disposal of construction waste. This training must be integrated into toolbox talks or onsite awareness sessions to ensure that waste management practices are understood and followed diligently. Additionally, contractors must prepare a method statement outlining specific waste management procedures, which must be approved by the resident engineer before construction activities commence. • Suitable handling and disposal protocols must be clearly explained, and sign boarded. • Reduce, reuse, recycle. • Waste disposal at licensed landfill sites by qualified contractors is mandatory, with proof of disposal submitted to the appointed Environmental Officer. Waste management certification must be obtained, and detailed records of all stored and disposed waste, including quantity, nature, and fate, must be maintained for auditing purposes.	**Medium, negative**	**Very Low, negative**	**None**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	• Adequate sanitary facilities and ablutions must be provided for all personnel throughout the project area. Enforcement of facility usage and cleanliness is crucial.			
Construction related pollution impacts on marine biota	• Minimise sediment release and spread through phased construction • Use turbidity or silt curtains where feasible • Careful handling and placement of materials, and stabilisation of reclaimed or disturbed areas to ensure impacts remain localised and temporary. • All fuel and oil must be stored with adequate spill protection • No leaking vehicles should be permitted on site. • Intentional disposal of any substance into the aquatic environment is strictly prohibited, while accidental spillage must be prevented, contained and reported immediately.	**Low, Negative**	**Very Low, Negative**	**Neutral**
The effect of increased noise and vibration from construction on marine organisms (invertebrates, fish, birds)	• Noise emissions from mobile and fixed equipment should be subject to periodic checks as part of regular maintenance programmes to allow for detection of any unacceptable increases in noise. After mitigation is considered, the impact of noise and vibration on the marine environment is considered insignificant.	**Very low, negative**	**Insignificant, negative**	**None**
Impacts of increased vessel presence on marine mammals	• Vessels used must be driven in a slow and responsible manner, keep gear changes and acceleration to a minimum to minimise rapid changes in noise levels. • A lookout must be kept for dolphins and whales at all times and groups should be avoided where possible. • If any impacts are observed (vessel strike, entanglement, strong avoidance responses) these should be reported to the relevant environmental authority as soon as possible (e.g. DFFE).	**Low, negative**	**Very low, negative**	**None**
Impact of underwater noise on marine mammals	• Before engaging in any rock dumping or similar actions where material is dumped directly into the ocean, ensure that no baleen whales are within ~500 m of the impact site (in the absence of direct measures of sound levels and hearing thresholds, 500 m is widely used as a typical distance for safe avoidance of noise impacts). As far as possible, ensure no dolphins are within 500 m of the impact site. A dedicated marine mammal observer should be used for these phases of work. • Ensure all machinery is in good working order to reduce in in-air noise levels and transmission into the marine environment. • Where rock placement/dumping/construction is planned - aim to work from the ocean space backwards towards shore to create a physical barrier to sound in the initial stages of work, then all other fill work will be effectively 'on land'.	**Low, negative**	**Very low, negative**	**Neutral**
Noise and vibration impacts of the reclamation and in-water marine construction of the western breakwater,	• *Install and maintain a minimum 3 m high temporary noise barrier along the haul road serving the western breakwater construction area for the duration of works on this breakwater only. The barrier should be positioned as close as reasonably practicable*	**Medium, negative**	**Low, negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
slipway and jetty and associated activities.	*to the haul road and active construction activities to maximise acoustic screening of the neighbouring property.* • *Undertake quarterly environmental noise monitoring during construction of the western breakwater to verify the effectiveness of the proposed mitigation measures, validate the noise model predictions and identify whether any additional practicable mitigation measures are required during construction. Monitoring should be undertaken at representative locations within the Waterclub precinct using the same methodology adopted for the baseline monitoring programme. Where measured noise levels differ materially from the predicted levels, the construction methodology and mitigation measures should be reviewed and, where necessary, additional mitigation implemented.* • *Pre-construction dilapidation surveys must be undertaken by the contractor for any existing infrastructure at risk from damage from construction activities, prior to the commencement of construction activities.* • *Avoid unnecessary idling of heavy construction plant and equipment.* • *Where practicable, avoid the simultaneous operation of multiple high-noise construction activities immediately adjacent to the Waterclub* • *Scheduling and working hour controls* • *Equipment and source controls* • *Marine fauna and underwater noise monitoring* • *Communication and stakeholder notification* • *Haul route management* *These mitigation measures will be detailed in the EMPr.*			
Noise and vibration impacts of the reclamation and in-water marine construction of the centre revetment and associated activities.	*General noise mitigation measures stipulated above.*	***Low, negative***	***Very low, negative***	***Neutral***
Noise and vibration impacts of the reclamation and in-water marine construction of the eastern breakwater and associated activities.	*General noise mitigation measures stipulated above.*	***Very low, negative***	***Very low, negative***	***Neutral***
Noise and vibration impacts of general land-side construction	• *Scheduling and working hour controls* • *Equipment and source controls* • *Communication and stakeholder notification* *These mitigation measures will be detailed in the EMPr.*	**Medium, negative**	**Low to medium, negative**	**Neutral**
Dust impacts	• All quarried rock should comply with PRDW's generic rock specification (PRDW 2019) which is based on the Rock Manual (CIRIA et al. 2007) and includes requirements to manage rock cleanliness (absence of soil or quarry dust), reducing the likelihood of dust generation during rock placement.	**Low to medium negative**	**Low negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	• Dust suppression using a water bowser shall be implemented at all exposed surfaces during dry, windy conditions. • All site vehicles shall observe a speed limit of 20 km/h on site access tracks and internal haul roads to minimise re-suspension of surface fines. • A construction complaints hotline shall be maintained. All dust-related complaints shall be logged, investigated, and responded to within 48 hours. • All haul trucks transporting fill material shall be covered with tarpaulins or tailgate covers before leaving the loading area and throughout transit along the haul route. Uncovered loads are prohibited. • The haul road within the site boundary and Granger Bay Boulevard adjacent to the site shall be swept and/or watered as required during active haulage periods. • Stockpiles of fine-grained materials (sand, crusher dust, topsoil) shall be covered with geotextile sheeting when not in active use. Cement shall be stored in sealed silos or closed bulk bags only. The stockpile layout shall be approved by the ECO before site establishment. All active stockpiles exceeding 1 m in height shall be enclosed by wind-break fencing (minimum 1.8 m height, 50% porosity) on the upwind sides. • End-tipping operations shall use controlled drop heights to suppress dust at the point of impact. • Haul vehicles shall be maintained to prevent spillage on public roads. Any spillage on public roads shall be cleared within one hour. Vehicles shall not be overloaded beyond manufacturer specifications. • All concrete demolition and saw-cutting operations shall use wet-cutting techniques (water suppression on cutting blade and drill) to prevent generation of airborne dust. • All skip bins and rubble skips shall be covered when filled. • Workers involved in demolition and concrete cutting shall be provided with appropriate respiratory protective equipment in accordance with the Construction Regulations, 2014. • Construction access tracks and internal haul routes shall be water-suppressed or treated with dust binders to minimise re-suspension of surface fines.			
ARCHAEOLOGICAL IMPACTS				
Damage to, or destruction of archaeological sites and/or artefacts	• Where new development or earthworks which have the potential to reach the depth of the former, historical land surface are undertaken in the areas indicated in Figure 56, the work is archaeologically monitored. • Should pre-colonial archaeological material be encountered, this will need to be archaeologically assessed by a suitably qualified archaeologist. • In the event of the discovery of human remains, work in the affected area must cease immediately, the find must be made secure	**Medium, Negative**	**Low, Negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	but left in situ, and HWC and an archaeologist must be informed so that the find can be assessed and arrangements can be made for its mitigation.			
Impact on maritime archaeology (shipwrecks)	• A geophysical survey of the seabed, (sidescan sonar, multibeam bathymetry and magnetometry), is conducted in the project area prior to any land reclamation activities, to confirm whether there are shipwreck or other heritage sites present. The results of the geophysical survey should be reviewed by a suitably qualified archaeologist. • If a wrecks or wrecks are present in the area SAHRA must be notified immediately, and the site/material must be assessed by a suitably qualified archaeologist, after which a decision can be made about the need for any mitigation measures, which may include site recording, sampling/excavation, and potentially removal and recovery. • Any future excavations within the Granger Bay Land Reclamation precinct through existing landfill, seaward of the historical alignment of the shoreline, to levels that may intersect with the former seabed must be subject to archaeological monitoring, with the necessary contingencies in place to allow the mitigation of shipwreck remains, should they be encountered.	**High, Negative**	**Low, Negative**	**Neutral**
VISUAL IMPACTS				
Visual impacts of construction activities	Standard construction phase mitigation measures include: • Manage stockpile and laydown areas for cleanliness and appearance. • Roof and screen waste areas. • Avoid unnecessary signage or advertisement on site. • Restrict the activities and movement of construction workers and vehicles to the immediate construction site as much as possible; • Ensure that rubble, litter and disused construction materials are managed and removed regularly; • Locate site camps and laydown areas away from visually sensitive receptors such as residences. • Screen site camps and laydown areas with shade cloth or similar, where possible and appropriate.	**Medium - High, Negative**	**Medium, Negative**	**Neutral**
HERITAGE IMPACTS				
Loss of ocean-going user access to the coastline	• Prepare a Construction Traffic and Access Management Plan prior to construction commencement that identifies all phases of work likely to affect slipway access, anticipated duration of any restrictions or closures, and proposed alternative arrangements. • Engage with the slipway operator and relevant local authority before construction commences to agree on acceptable working hours and minimum access requirements that must be maintained throughout construction. • Complete construction, commissioning, and testing of the new slipway to a standard of full	**Medium, negative**	**Low, negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	equivalent functionality (including launch and retrieval capability, approach, lighting, and associated facilities) and confirm this with a joint inspection before any restriction or closure of the existing slipway is implemented. • Provide advance public notice of any planned slipway closures or restrictions through appropriate channels (signage at the slipway, notice to local boating clubs and harbour users, and municipal or harbour authority communication channels) at least 5 working days before any restriction takes effect. • Minimise the footprint and duration of any construction exclusion zone affecting the slipway approach, launch area, or associated parking and rigging areas; remove temporary obstructions at the end of each working day where practicable. • Ensure construction signage and barriers at the slipway are clearly marked, well-lit, and do not create safety hazards for members of the public navigating around the works area. • Maintain a complaints and grievance register for slipway users and respond to complaints relating to access disruption within 2 working days.			
Loss of pedestrian user access to the coastline	• Phase construction activities so that the existing boardwalks and walkways are only closed off when and where needed for construction activities. • The coastal public walkway / sea park area should be prioritised for completion as soon as the coastal protection infrastructure is completed.	**Medium, negative**	**Medium, negative**	**Neutral**
TRAFFIC IMPACTS				
Traffic Volumes (Trucks and Staff Cars)	• Off-peak scheduling of heavy-vehicle movements. • Advance public notice of road, lane or shoulder closures, with on-site flagmen, barriers and signage compliant with Southern African Road Traffic Signs Manual (SARTSM). • Site traffic-management plan with qualified marshals. • Early liaison with MyCiTi operations to phase any temporary stop or route restrictions and obtain route deviations. • Wheel-wash bays and routine road-sweeping to prevent debris spillage. • Condition checks of Granger Bay Boulevard and adjacent intersections along well-used haul routes. • Stakeholder notifications and information boards within the Waterfront precinct.	**High, Negative**	**Medium, Negative**	**Neutral**
Pavement Wear and Dust	• Wheel-wash bays and routine road-sweeping to prevent debris spillage. • Condition checks of Granger Bay Boulevard and adjacent intersections along well-used haul routes. See mitigation measures above • Dust suppression measures.	**Medium, Negative**	**Low, Negative**	**Neutral**
Worker and Public Safety	• Advance public notice of road, lane or shoulder closures, with on-site flagmen, barriers and signage compliant with Southern African Road Traffic Signs Manual (SARTSM). • Site traffic-management plan with qualified marshals.	**High, Negative**	**Medium, Negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
Temporary Closures and Diversions	• Advance public notice of road, lane or shoulder closures, with on-site flagmen, barriers and signage compliant with Southern African Road Traffic Signs Manual (SARTSM). • Site traffic-management plan with qualified marshals. • Early liaison with MyCiTi operations to phase any temporary stop or route restrictions and obtain route deviations. • Signalled detours • Night works where feasible [KH1.1] and noise restrictions permit	**High, Negative**	**Low, Negative**	**Neutral**
SOCIO-ECONOMIC IMPACTS				
Temporary stimulation of business production and GDP through construction expenditure	• The developer should encourage the contractor to increase the local procurement practices and promote the employment of people from local communities, as far as feasible, to maximise the benefits to the local economies; • The developer should engage with local authorities and business organisations to investigate the possibility of procuring construction materials, goods and products from local suppliers were feasible.	**Medium-High, positive**	**High, positive**	**Neutral**
Short-term employment creation during the construction phase	• Where feasible, efforts should be made to employ locally to create maximum benefits to the communities. • Sub-contract to local construction companies particularly SMMEs and BBBEE complaint enterprises where possible.	**Medium-High, positive**	**High, positive**	**Neutral**
Short-term increase in household earnings due to construction jobs	• Where possible, local labour should be considered for employment to increase the positive impact on the local economy. • Employ labour-intensive methods in construction where feasible. • Sub-contract to local construction companies first where possible to do so	**Medium positive**	**Medium-high positive**	**Neutral**
Short-term increase in government revenue through construction-related taxes and fees	• N/A	**Medium positive**	**Medium positive**	**Neutral**
Temporary disruption to local traffic flow due to construction-related activities	• Comply with traffic regulations and management (such as using flag people) to ensure a minimal impact on traffic. • Compliance with traffic management/control measures included in the Environmental Management Programme (EMPr) for the project.	**Medium-high, negative**	**Medium, negative**	**Neutral**
Short-term environmental nuisance from construction activities including dust, noise and air pollution	• Comply with polices regarding noise and dust regulation methods close to and on roads and other existing infrastructure. • Regularly clean and maintain the construction site to prevent the accumulation of dust.	**Medium, negative**	**Low, negative**	**Neutral**
Visual intrusion during construction impacting scenic and recreational value	• Limit construction footprint • Manage site lighting • Implement Construction EMP visual controls (as per VIA recommendations)	**Medium, negative**	**Low, negative**	**Neutral**
Temporary disruption to recreational boating activities during construction due to limited access and safety concerns	• Schedule construction outside peak boating seasons • Maintain temporary access routes and berthing • Communicate construction schedule in advance	**Medium, negative**	**Low, negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
Temporary displacement of marine wildlife due to construction noise and vessel activity, potentially affecting kayak/SUP tourism	• Schedule high-noise construction activities (e.g., rock placement and heavy equipment operation) during daylight hours where feasible to reduce prolonged disturbance. • Ensure that construction activities comply with applicable marine environmental legislation, including the National Environmental Management Act (NEMA), the Integrated Coastal Management Act (ICMA), and the Marine Living Resources Act	**Medium negative**	**Low, negative**	**Neutral**
Temporary disruption to economic activity and informal trading during reclamation	• Maintain some access routes. • Maintain temporary access routes where possible. • Engage affected operators early to identify and address disruption concerns.	**Medium negative**	**Low negative**	**Neutral**
CLIMATE CHANGE RISKS				
Extreme weather conditions delay construction	• Not required due to the low significance of the impact.	**Very Low, negative**	**Very Low, negative**	**N/A**
High shear stress impacts delay construction	• Not required due to the low significance of the impact.	**Low, negative**	**Low, negative**	**N/A**

Post-Construction Phase Impacts

Table 0-3 summarises the overall significance of the impacts assessed for the post-construction phase, following the implementation of the recommended mitigation and management measures for each alternative.

Table 0-3. Key impacts and mitigation measures assessed in the EIA

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
COASTAL DYNAMIC IMPACTS				
Wave reflections into Table Bay	• Not required due to the low significance of the impact.	**Low, negative**	**Low, negative**	**None**
Longshore sediment transport	• None required due to insignificance.	**Insignificant, negative**	**Insignificant, negative**	**Neutral**
Short-wave reflections towards the Granger Bay Marina	• Not required due to the low significance of the impact.	***Very Low, negative***	***Very Low, negative***	**None**
Long-wave reflections towards the Granger Bay Marina	• *Not required due to the low significance of the impact.*	***Very Low, negative***	**Very Low, negative**	**None**
Short and long wave reflections onto the *main* Granger Bay Marina breakwater	• *Not required due to the low significance of the impact.*	***Insignificant, negative***	***Insignificant, negative***	**None**
Short and long wave reflections onto the lee Granger Bay Marina breakwater	• *Regular monitoring of the condition of the breakwater with rehabilitation when necessary.*	***Very Low, negative***	***Very Low, negative***	**None**
Impacts on Small Craft Operations	• Users made aware of the possible effects that they may encounter, such as appropriate signage near the slipway.	**Very Low, negative**	**Very Low, negative**	**None**
MARINE ECOSYSTEM IMPACTS				
Change in habitat and system function	• The project design must account for potential changes in hydrodynamic function and ensure that resultant local changes in hydrodynamics do not cause significant, ongoing scour of the seabed.	**Low, negative**	**Very low, negative**	**None**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	• Ensure potential pollution sources (including bilge water and greywater etc.) associated with the development are managed to avoid pollution which may further degrade these habitats.			
Loss of rocky shore habitat, introduction of artificial habitat	• No practical mitigation possible	**Low, negative**	**Low, negative**	**None**
Impacts on West Coast Rock Lobster over the long term	• Not required – positive impact.	**Low, positive**	**Low, positive**	**None**
Increased vessel traffic	• Designate speed-restricted areas within Granger Bay to reduce underwater noise and minimise the risk of vessel strikes on marine fauna. • Follow local legislation and international best-practice guidelines for bilge and greywater discharge, with clear signage and training for all harbour users. • Awareness and reporting: Conduct regular environmental awareness campaigns for vessel operators, and implement a system for reporting marine mammal sightings and pollution events.	**Medium, negative**	**Very low, negative**	**None**
Impacts on marine mammals	• Marine mammal monitoring and adaptive management	**Medium, negative**	**Medium, negative**	**Neutral**
VISUAL IMPACTS				
Change in visual character and impact on scenic resources as a result of development, with no development resulting in area being used for temporary activities including material stockpiling	• The visual intrusion of vehicular roads and parking areas between buildings must be minimised. • Garages on the ground floor, which create 'dead' building frontages, are to be avoided. • Appropriate landscaping measures: » The Guidelines for Landscaping provided in the V&A Urban Design Guideline Document must be followed. » The Development Control Document addresses human-scaled outdoor spaces and routes, with climatic wind shelter and shade, and opportunities for sitting, particularly along the proposed coastal promenade. These must be implemented via an approved landscape plan as part of the SDP approval for these parcels. » Similarly, figures indicate the special treatment of the proposed coastal protection works to ameliorate the visual effect of engineered structures, which can appear visually severe. The engineered straight lines are replaced by way of curved edges, vertical and horizontal undulations, pathways at various levels, landscaping and access to the water's edge with a variety of water activities. These concepts must be implemented. » The design must be subject to an approved landscape plan prepared by a professionally registered landscape architect, as part of the SDP submission stage. » Street furniture, lighting and signage must be designed as part of an integral	**Medium-High, Negative**	**Medium, negative**	**Medium, Negative**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	system and avoid unnecessary visual clutter in the coastal landscape setting. » Rock revetments are visually preferable to 'dolos'. This should be used on visible revetment areas. • Further visual review: Given the current lack of detailed architectural and landscaping information relating to the proposed project, it is essential that further visual reviews of the proposals take place at the Site Development Plan stages. These plans must give an indication of architectural and landscape proposals for the development.			
Visual intrusion on Sense of Place	• Interface between The Water Club and Packages 1 and 2 must be articulated as detailed above. • Table Bay views down Granger Bay Boulevard to be considered. • Building forms and finishes designs finalized.	**Medium - High, negative**	**Medium, negative**	**Low, negative**
Light pollution	• Light pollution from outdoor or security lighting must be avoided, and high mast lighting prohibited. Street lights must be fitted with reflectors to avoid light spillage, and low-level lights provided for pedestrian areas. The design must be subject to an approved lighting plan by a professional lighting engineer. • Street furniture, lighting and signage must be designed as part of an integral system and avoid unnecessary visual clutter in the coastal landscape setting.	**Medium, negative**	**Low, negative**	**Low, negative**
HERITAGE IMPACTS				
Visual, physical or design implied constraints on pedestrian access to coastline	• Implement designs as per the Urban Design Guidelines, specifically allowing for the continuous coastal walkway along the shoreline. • Make appropriately sensitive provision for the management of building height, massing and edges in relation to the public realm.	**High, negative**	**Low – Medium, negative**	**Low, negative**
TRANSPORT IMPACTS				
Increased Traffic Volumes	• Granger Bay Boulevard Extension as a dual carriageway • Internal road geometry to City guidelines (access spacing, aisle widths) • Cycle/pedestrian network throughout the precinct • Promote TDM (park-and-ride, rail/bus feeders, micromobility, inclusionary housing incentives)	**High, negative**	**Low, negative**	**Neutral**
Intersection Performance and Capacity	• Cycle lanes; additional stops, walkable environment	**High, negative**	**Low, negative**	**Neutral**
Access Safety and Local Circulation	• Minimum stacking (lanes/setback); crossings	**Medium, negative**	**Very low, negative**	**Neutral**
Impact on non-motorised and PT facility provision	• Granger Bay Boulevard Extension as a dual carriageway • Internal road geometry to City guidelines (access spacing, aisle widths) • Cycle/pedestrian network throughout the precinct • Promote TDM (park-and-ride, rail/bus feeders, micromobility, inclusionary housing incentives)	**Medium, negative**	**Very low, negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
SOCIO-ECONOMIC IMPACTS				
Sustained increase in economic output and GDP from ongoing operational activity	• The emphasis should be on increasing local procurement practices in terms of sourcing materials locally, hiring local suppliers and services and promoting the employment of people from local communities, as far as feasible to maximise the benefits to the local economies	**Medium, positive**	**High, positive**	**Neutral**
Long-term employment opportunities generated by retail, hospitality and operations	• Where feasible, efforts must be made to employ locally to create maximum benefits to communities in terms of increased employment. • Sub-contract to local construction companies particularly SMMEs and BBBEE compliant enterprises where possible.	**Low-medium, positive**	**High, positive**	**Neutral**
Long-term income streams from stable employment	• Where possible, the local labour supply should be considered for employment opportunities to increase the positive impact on the local and regional area's economies. • SMMEs should be approached to investigate the opportunities for supply inputs required for maintenance and operations of the Data centres, warehousing and logistics operations.	**Medium positive**	**Medium-high positive**	**Neutral**
Sustained increase in government revenue through rates, taxes and permits	• N/A	**Medium positive**	**Medium positive**	**Neutral**
Increased traffic volumes associated with residential, commercial, and recreational activities within the precinct	• Integration with public transport (MyCiTi), promotion of non-motorised transport infrastructure and ongoing traffic management measures.	**Low, negative**	**Low, negative**	**Neutral**
Opportunities for local workforce training and upskilling in urban services	• Where feasible, efforts must be employing skilled individuals in the local areas first.	**Low positive**	**Medium positive**	**Neutral**
Permanent change to coastal skyline and visual character due to mixed-use buildings and coastal engineering works	• Landscape Development Plan • Adherence to height limits (21.5m MSL in Arc of Fire)	**Medium, positive**	**Medium – High, positive**	**Neutral**
Improved access to high-quality public spaces and recreational amenities for residents and visitors	• Ensure inclusive access, lighting, safety design, and programming to maximise public benefit.	**Medium-High positive**	**High positive**	**Neutral**
Enhanced coastal public access through the development of coastal infrastructure	• Develop safe, well-maintained coastal access infrastructure, including accessible pathways, sufficient lighting, safety measures, and the promotion of public use of open spaces	**Medium – High, positive**	**High, positive**	**Neutral**
Increased tourism potential and visitor spending in the area	• Improved brand image of Cape Town, increased dwell time, stimulated hospitality sector	**Medium-high positive**	**High positive**	**Neutral**
Increased access to marine infrastructure supporting recreational boating, tourism operators and small marine enterprises	• Promote inclusive access to berthing and marine infrastructure • Enable safe public use	**Medium-high positive**	**High positive**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
Support for long-term wildlife-based marine tourism, particularly kayaking/SUP operators reliant on wildlife sightings	• Measures include public education signage, responsible wildlife viewing guidelines, and coordination with local operators to minimise disturbance.	**Medium positive**	**Medium-high positive**	**Neutral**
Long-term integration of reclaimed land into the urban surrounding, improving land use efficiency and coastal access	• Prioritise local employment, ensure inclusive coastal access, promote mixed-use development.	**Medium-high positive**	**High positive**	**Neutral**
Enhanced physical and visual access to the coastline, benefiting diverse user groups	• Ensure walkways and access points remain open, universally accessible, and well-maintained as public infrastructure	**Medium-high, positive**	**High, positive**	**Neutral**
CLIMATE CHANGE RISKS				
The proposed development prevents high wind speeds and associated storm surge in the area damaging established infrastructure.	• None required – positive impact	**Medium, positive**	**Medium, positive**	**Medium, Negative**
The proposed development reduces the risk of the projected increase in sea level, coupled with the high wind speeds and shear stresses experienced, increasing the potential for coastal flooding.	• None required – positive impact	**Medium, positive**	**Medium, positive**	**Medium, Negative**
The proposed development reduces the risk of the projected increase in sea level, coupled with the high wind speeds and shear stresses experienced, increasing the potential for coastal erosion	• None required – positive impact	**Medium, positive**	**Medium, positive**	**Low, Negative**
Reduced water availability increasing the use of freshwater from aquifers, coupled with the increases in sea level. This increases the potential for groundwater intrusion, and therefore, salinisation. The development will have minimal impact on this regional impact of climate change.	• Rainwater storage for the extended dry period • Greywater recycling programmes.	**Low, negative**	**Low, Positive**	**Low, Negative**
Increased drought susceptibility and extended dry periods may reduce water	• Rainwater storage for the extended dry period. • Greywater recycling programmes. • Consideration of alternative water sources should this risk be realized.	**Low, negative**	**Low, negative**	**Low, Negative**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
availability for the development				
Reduced water availability and increased temperatures in the region may increase the likelihood of fires starting offsite and spreading to Granger Bay, damaging infrastructure	• Not required due to the low significance of the impact.	**Very low, negative**	**Very low, negative**	**None**
The reductions in ocean pH and increased sea level and sea temperature, coupled with the high wind speeds already experienced, increasing the potential for, and rate of, physical and chemical corrosion	• No specific mitigation measures required.	**Low, negative**	**Low, negative**	**Low, Negative**
The projected increases in mean temperatures and reduced ocean pH increasing the potential for inland chemical corrosion	• No specific mitigation measures required.	**Low, negative**	**Low, negative**	**Low, Negative**

Conclusions and Recommendations

Based on the findings of the specialist studies and on the other factors considered in the impact assessment, it is recommended that the proposed development receive environmental authorisation (Figure 8-3).

The proposed development maximises economic benefits and public coastal amenities while providing much needed coastal protection infrastructure. The proposal implements key urban design principles including coastal access and space allocation for marine users, without unacceptably high impacts on the sensitive areas identified on site.

Of the 38 discrete impacts assessed across both phases, no impact is rated High Negative post-mitigation. A significant negative impact pre-mitigation is the visual intrusion from the proposed built development on views from the Water Club, Green Point, and Signal Hill (High Negative), which reduces to Medium Negative after implementation of the VIA-prescribed massing, interface, and view corridor measures. Noise and vibration from marine construction is rated Medium Negative pre-mitigation, reducing to Low Negative post-mitigation for the worst-case scenario, with the Water Club as the nearest residential receptor.

Significant positive impacts, all rated High Positive, include the construction-phase economic stimulus (R24.2 billion production; ≈26,929 jobs) and the sustained operational economic, employment, and public amenity benefits. The 750 m long public promenade, tidal pools, sea park, and universally accessible coastal edge represent a positive transformation of a currently underutilised and unsafe section of Cape Town's coastline.

The main residual environmental risk is the permanent loss of rocky shore and soft sediment marine habitat within the seafloor footprint of the proposed revetment, reclamation and breakwaters (rated Medium-High Negative pre-mitigation), which reduces to Medium Negative post-mitigation. This residual impact reflects the irreversible nature of land reclamation and is accepted in the context of the ecological enhancement measures (artificial reef colonisation, tidal pools, no-take zone considerations) and the substantial public benefit delivered.

On balance, the EAP's assessment is that the Preferred Alternative provides an acceptable trade-off between the constitutional imperatives of environmental protection and ecologically sustainable development, and is recommended for environmental authorisation subject to implementation of all EMPr conditions.

Figure 8-2 superimposes the proposed activity and its associated infrastructure on the environmental sensitivities of the proposed development footprint on the approved site as contemplated in the accepted scoping report.

In order to ensure the effective implementation of the mitigation and management actions, an EMPr is included as **Appendix D** of this EIA Report. The mitigation measures necessary to ensure that the project is planned, constructed, and operated in an environmentally responsible manner are listed in this EMPr. The EMPr should be updated regularly and provide clear and implementable measures for the establishment and operation of the proposed development.

This assessment is based on the best available information and specialist input at the time of reporting. However, uncertainties remain due to limitations in baseline data, predictive modelling assumptions, and the variable response of environmental systems, particularly in relation to marine ecology and climate change. A precautionary approach has been applied to impact assessment, and adaptive management measures, including monitoring and refinement of mitigation actions, are recommended to address residual uncertainty.

Taking into consideration the findings of the various specialist studies and the issues raised by interested and affected parties and organs of state, it is the EAP's reasoned opinion that the proposed activity should receive Environmental Authorisation in terms of the EIA Regulations, 2014, subject to the following conditions:

1. The **Environmental Management Programme** (EMPr) forming part of this EIA Report must be implemented during the design, construction and post-construction phases of the development.
2. An independent **Environmental Control Officer** must be appointed for the duration of the construction phase and must carry out the responsibilities of that role as defined in the EMPr.
3. **Operational management agreements** for the management of the new slipway and bay area should be in place before construction commences.
4. **Designs of the boating launching area and slipway** must provide for, at minimum, an equivalent number of trailer parking bays to that currently available at the existing slipway, at a distance of no more than 150 metres from the launch site.
5. Measures must be implemented during the post-construction phase to make **ocean users aware of potential wave amplification** within the new bay and potential increases in wave heights that could be experienced.
6. **A Marine Mammal Monitoring Plan** must be implemented during the construction of the coastal infrastructure.

7. **A geophysical survey of the seabed**, (sidescan sonar, multibeam bathymetry and magnetometry), should be conducted in the project area prior to any land reclamation activities, to confirm whether there are shipwrecks or other heritage sites present.
8. **Archaeological monitoring** must be conducted as part of the construction of the coastal infrastructure. The results of the geophysical survey should be reviewed by a suitably qualified archaeologist.
9. **Dust management** must be implemented during construction, in particular measures to prevent the introduction of fine particles into the marine ecosystem through quarried rock (e.g., implementing PRDW's Generic Rock Specification). Silt curtains should be used around coastal infrastructure, where practical and feasible.
10. A **Water Quality Monitoring Plan** should be conducted, with baseline measurements taken prior to the commencement of construction activities. Monitoring should continue throughout the construction phase to determine if construction activities are negatively impacting water quality. Water quality must also be monitored during the post-construction phase, specifically near the eastern breakwater where users may swim to ensure there is no undue risk to public health.
11. A **Traffic Management Plan** be compiled before construction to manage transport related impacts.
12. *The **noise mitigation measures** specified in the EMPr be implemented.*
13. ***HWC be consulted** in line with its final comment in relation to precinct plan submissions.*

It is proposed that environmental authorisation should be granted for a period of ten years, with construction to be completed within a period of ten years thereafter.

Public Participation

A major part of the Scoping and EIA process is allowing the public the opportunity to comment on the application and the assessment of environmental impacts.

In compliance with the EIA Regulations, 2014 (as amended), the Scoping Report was made available for public comment on the following occasions:

- **31 July 2025 to 1 September 2025:** Publication of the Pre-Application Draft Scoping Report (PADSR), including an Open Day on the **13 August 2025**.
- **10 November 2025 to 10 December 2025:** Publication of the Draft Scoping Report (with the submission of the application form to the Department of Environmental Affairs and Development Planning on the 10 November 2025).

The Scoping Report covered the following information:

- the project proposal and identified alternatives,
- a description of the environment on and surrounding the site,
- an analysis of relevant policy and planning frameworks,
- a description of potential environmental impacts identified to date, and
- a plan for assessment of the identified issues and impacts.

The Final Scoping Report (FSR) was updated to incorporate and respond to comments received during public participation and submitted to DEADP for approval. **DEADP accepted the FSR on 02 March 2026 (included as Appendix E)**, approving the Plan of Study outlined in the FSR, culminating in the draft Environmental Impact Assessment Report.

The EIA Report was made available on the following occasions:

- ***19 March 2026 to 22 April 2026:*** *Publication of the Draft EIA Report, including an Open Day on the* ***30 March 2026****.*
- ***16 July 2026 to 17 August 2026 (current):*** *Publication of the Amended EIA Report (following substantial updates and new information).*

A detailed account of the Public Participation Process for this project is provided in **Chapter 7**, detailing the various opportunities I&APs have had and will have to comment on this application and assessment. **Appendix M** includes a detailed comments and responses report, and the register of I&APs and proofs of public participation will be submitted to the competent authority with the final EIA Report.

A database was prepared of potential interested and affected parties, including adjacent landowners and occupiers, ward councillors, municipal officials, relevant state departments and organs of state, and community-based organisations that may have an interest in or be affected by the proposed development. Notification letters were emailed, or hand-delivered to all identified interested and affected parties informing them of the proposal, the opportunity to comment, and the availability of the Scoping Report for the previous commenting period. Where neighbouring properties included sectional title or leased properties, the respective managing agents or property owners' associations were engaged with to assist in the distribution of notifications to their individual owners or lessees.

I&APs were requested to register their interest and to comment, and those who did were added to the database of registered I&APs. This database will continue to be updated throughout the process.

All registered I&APs were notified via their preferred communication method about the availability of the Draft EIA Report, which is now published for comment. Interested and Affected Parties may continue to register at any time throughout the Scoping and EIA process. **Any person who wishes to receive notifications of future comment periods must register as an interested and affected party by providing their contact information to the Environmental Assessment Practitioner at the details listed.**

The *amended* EIA Report and associated appendices are available on the project website at **www.infinityenv.co.za/grangerbay**.

The 30-day commenting period commences on **Thursday, 16 July 2026**, and ends on **Monday, 17 August 2026**. Interested and affected parties have been notified as described above and are encouraged to comment using any of the methods provided below.

REGISTER YOUR INTEREST & SUBMIT YOUR COMMENTS

Online at **www.infinityenv.co.za/grangerbay**

By email to **grangerbay@infinityenv.co.za**

By WhatsApp message to **060 524 7676**

Please submit your comments or register your interest by no later than **Monday, 17 August 2026**

For more information, to comment, or to arrange alternative ways of participating, please contact Infinity Environmental at the details above.

Processing of personal information

Infinity Environmental is required by the EIA Regulations, GNR 982 of 2014 (as amended) and the National Environmental Management Act to maintain a register of interested and affected parties, including people who have commented, attended meetings, or requested registration. This requires us to collect and process certain personal information as defined in the Protection of Personal Information Act, 2013. The following personal information will be collected, with the required consent, for the purpose of public participation from registered I&APs and will be collected from anyone who comments or registers:

- Name, contact details and address.
- A copy of any comments submitted; and
- Details of any interest declared in the granting or refusal of the application.

The name and comments of each Interested and Affected Party who registered and/or who will comment shall be provided to the competent authority and the applicant. Interested and Affected Parties were informed that, should they register and/or comment, their name and contact details are provided to the competent authority and the applicant. Personal information will be stored by Infinity Environmental (Pty) Ltd at 2 Fir Street, Observatory 7925, and on a cloud storage system which may include servers outside the Republic of South Africa. Interested and Affected Parties may, at any time, request access to or rectify this personal information by contacting us at info@infinityenv.co.za.

Visit www.infinityenv.co.za/legal to view our Privacy Policy

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Abbreviations and Acronyms

AIA	Archaeological Impact Assessment
CBA	Critical Biodiversity Area
CBD	Central Business District
CCT	City of Cape Town
CFR	Cape Floristic Region
CPR	Cape Peninsula Renosterveld
DEA&DP	Department of Environmental Affairs and Development Planning
DFFE	Department of Forestry Fisheries and the Environment
DSDF	District Spatial Development Framework
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioners Association of South Africa
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
ESA	Ecological Support Area
GDP	Gross Domestic Product
GN	General Notice
GNR	General Notice Regulation
HIA	Heritage Impact Assessment
HWC	Heritage Western Cape
ICMA	National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008)
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
MIA	Marine Impact Assessment
MOCAA	Zeitz Museum of Contemporary Art Africa
MPA	Marine Protected Area
MSDF	Municipal Spatial Development Framework
NEMA	National Environmental Management Act (Act 107 of 1998)
NEM: BA	National Environmental Management Biodiversity Act (Act 10 of 2004)
NEM: WA	National Environmental Management Waste Act (Act 59 of 2008)
NHRA	National Heritage Resources Act (Act 25 of 1999)
NID	Notice of Intent to Develop
masl	Metres above sea level
OIA	Oceanographic Impact Assessment
PoS	Plan of Study
PPP	Public Participation Process
PRASA	Passenger Rail Agency of South Africa
PSDF	Provincial Spatial Development Framework
SAHRA	South African Heritage Resources Agency
SAM	Social Accounting Matrix
SAMSA	South African Maritime Safety Authority
SATS	South African Transport Services Act (Act 9 of 1989)
SEIA	Socio-Economic Impact Assessment
SDF	Spatial Development Framework
SPLUMA	Spatial Planning, Land Use and Management Act (Act 16 of 2013)
TIA	Transport Impact Assessment

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CHAPTER 1
INTRODUCTION

July 2026

Amended Environmental Impact Assessment Report

INFINITY ENVIRONMENTAL

1 INTRODUCTION

This chapter provides an overview of the proposed development of the Granger Bay Precinct, Erf 173712 and Erf 177853, at the V&A Waterfront. Chapter 1 includes:

- Background and history of the site
- An overview of the proposed development
- Information on the applicant for Environmental Authorisation (EA)
- Details of the Environmental Assessment Practitioner (EAP) and the specialist team
- An outline of the objectives of the Scoping and EIA process and
- Confirmation of how the requirements for an EIA Report in terms NEMA and ICMA are met by this document.

1.1 Background

V&A Waterfront Holdings (Pty) Ltd. ("the applicant" or "the V&A Waterfront") proposes to reclaim land and construct coastal protection infrastructure to support new mixed-use development in the Granger Bay Precinct, which lies east of Beach Road and north of Granger Bay Boulevard in Cape Town (Figure 1-1). The proposal includes the replacement of existing coastal defence structures with a new revetment and breakwaters, and reclamation of land from Table Bay landward of these new structures, as well as new mixed-use development in the area landward of the existing coastal defence infrastructure.

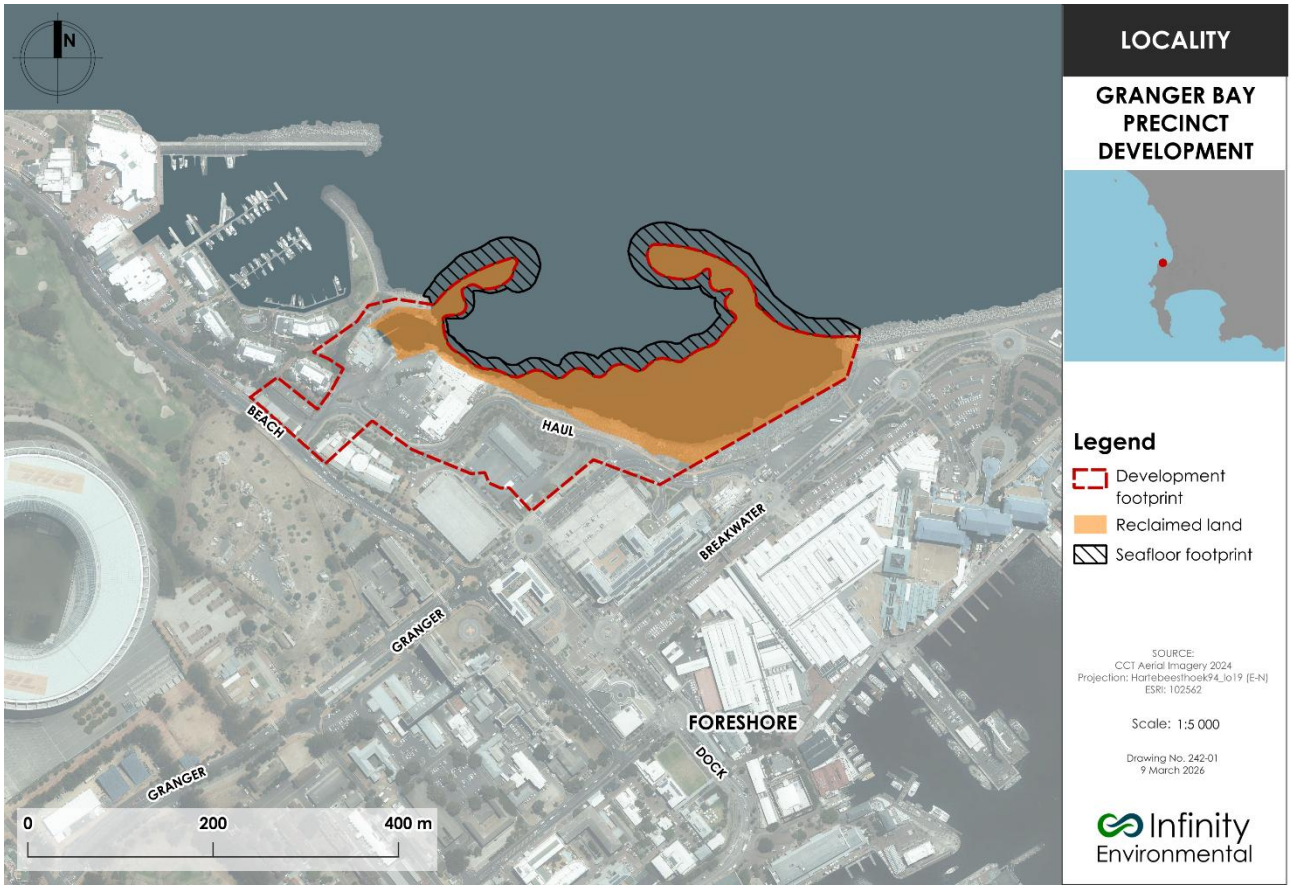


Figure 1-1: Locality map of the site and proposed land reclamation area

1.2 Legislative requirements

Due to the nature and location of the proposed development, the following environmental legislation is applicable:

- National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA); and
- National Environmental Management: Integrated Coastal Management Act, 2008 (Act 24 of 2008) (NEM: ICMA).

1.2.1 National Environmental Management Act 107 of 1998

Section 24 of NEMA provides for the listing of activities that have, or are likely to have, a negative environmental impact and which require Environmental Authorisation (EA) prior to commencement. Three EIA Regulation Listing Notices were published in 2014 (GN R. 983 to 985, as amended) to identify activities that require EA. Where activities in the Listing Notices are proposed, an assessment process as stipulated in the EIA Regulations, 2014, must be undertaken to inform an EA application.

Since activities from Listing Notice 2 are proposed, this application is following a Scoping and EIA process in terms of the 2014 EIA Regulations, as amended. The competent authority for the Scoping and EIA process is determined based on section 24C of NEMA, and the competent authority for this proposal is the provincial authority, the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP).

Listed Activities applicable to the proposed development:

- Listing Notice 1 (GN 327 of 2017): Activity 9, 15, 17 and 19A
- Listing Notice 2 (GN 325 of 2017): Activity 14, 23 and 26

1.2.2 National Environmental Management: Integrated Coastal Management Act

The proposed development will require the reclamation of land in terms of the Integrated Coastal Management Act (Act 24 of 2008) from Table Bay to accommodate new coastal public amenities and new mixed-use development.

Section 7C of the ICMA governs the reclamation of land from the sea for purposes other than the construction of state infrastructure and sets out the process and approvals required. The proposed reclamation of land must be pre-approved by the national Minister for Environmental Affairs, and this pre-approval must be ratified by Parliament. Reclamation will be considered only where it does not conflict with the purposes of coastal public property, namely, to improve public access to the seashore, to protect sensitive coastal ecosystems, to secure the natural functioning of coastal processes, and to provide protection from dynamic coastal processes, including sea level rise.

An application for pre-approval of land reclamation was made to the national Minister of Environmental Affairs prior to the submission of an application in terms of NEMA. The statutory process applicable to the reclamation and the alignment of this process with the Scoping and EIA, are expanded on in Chapter 2 of this report.

1.3 Purpose of this report

This EIA Report forms part of the Scoping and Environmental Impact Assessment process in terms of the NEMA and the EIA Regulations. It provides a detailed assessment of the impacts identified in the Scoping Phase of the project, as well as mitigation and/or enhancement measures as identified by the specialists, and makes recommendations on the granting of environmental authorisation and the conditions on which such authorisation should be granted.

The draft EIA Report is shared with interested and affected parties, the competent authority, and other government departments for review and comment, so that concerns and issues can be addressed and incorporated. Following public consultation, the Final EIA Report will be submitted to the competent authority for a decision.

1.4 Site location

The project site forms part of the V&A Waterfront and is located within the Granger Bay Precinct, which lies east of Beach Road and north of Granger Bay Boulevard near Cape Town's Central Business District (CBD). The V&A Waterfront is situated in Cape Town along the Table Bay coast, spanning an area of approximately 123 hectares (ha) and set against the backdrop of the working harbour. The area includes the main commercial zone with its shopping mall, hotels, restaurants, and entertainment venues, as well as sites such as the Two Oceans Aquarium and the Zeitz Museum of Contemporary Art Africa (MOCAA). The V&A Waterfront has been developed since the 1990s around the Victoria and Alfred Basins, themselves dating back to the 19th century as part of the Cape Town Harbour. Road access is possible from various major routes, including the N1 and N2 freeways, and the Helen Suzman Boulevard (M6), which connects the area with the Atlantic seaboard. It is also popular for marine recreational activities.

The project site includes:

- A portion of Erf 173712 seawards of the 100m setback from the highwater mark;
- A portion of Erf 177853 (undeveloped land between Erf 173712 and the highwater mark); and
- Land to be reclaimed from the sea below the highwater mark, with the east breakwater - being approximately 140m offshore of the present shoreline.

1.5 History of the site and background to the proposed development

The proposed site and surroundings have a long and significant history, with records dating back to before the 1600s. The Granger Bay Precinct is part of a stretch of coastal plain which once extended from Buitengracht to beyond Mouille Point, of which the Green Point Common represents the remaining part. Until the 19th century, the coastal plain was characterised by calcrete dunes, which were flattened during the late 19th and 20th centuries to make way for the Granger Bay Marina and related infrastructure. Fort Wynyard is located on the last surviving low dune. Beach Road, immediately to the south of the site, was located on the coastline, and land reclamation associated with Granger Bay Marina and The Water Club occurred during the 1980s and 1990s.

In 1987 it was proposed that the docklands surrounding the Victoria and Alfred Basins of the Cape Town Harbour be redeveloped for mixed use urban development, and in 1989, the Legal Succession to the South African Transport Services Act, Act 9 of 1989 (SATS Act) was promulgated to enable the landowner of the harbour at the time (Transnet), and the City of Cape Town to reach an agreement on the development rights for the V&A Waterfront property of approximately 123 ha to be exercised over the long-term, factoring in market demand.

A brief history of the settlement and fortifications, development of the harbour and 20th century developments is summarised below (Figure 1-2). More details on the history of the site can be found in Chapter 3.



Figure 1-2: Brief summary of the history of the Granger Bay area

The V&A Waterfront has developed incrementally for commercial and residential uses over the course of three decades, gradually densifying and expanding in response to demand and in accordance with the original vision for the area. The Granger Bay precinct, within which the proposed development is located, is located between the Victoria Wharf area and the Cape Town Stadium. It has not yet developed to its full potential, and includes a number of current temporary land uses, as shown in Figure 1-3: the Oceana Power Boat Club, the Grand Café & Beach Restaurant, the previous site of the Oranjezicht Market [relocated in late 2025], parking areas, stockpiles of fill material, and newly constructed sections of coastal walkway.

Environmental Authorisation was granted in 2018 (and confirmed on appeal in 2019) by DEA&DP for the development of a dolos revetment, reclamation of land from the sea, and mixed-use development on Erf 173712. This development of approximately 1.6 ha in extent included residential, retail, and commercial components as well as private open space. More details regarding the approved scheme are included in Chapter 2. The 2018 Scheme has not been implemented, and the V&A Waterfront has instead proposed a new design for this area, which is the subject of the current application and this EIA Report.

1.6 Proposed development

The proposed development incorporates the reclamation of approximately *3.8 hectares*† of land from Table Bay to accommodate new coastal public amenities and new mixed-use development. This reclamation will be protected by a new permanent rock revetment and two ('east' and 'west') breakwaters forming a new protected bay approximately 3 hectares in extent. The west breakwater will extend approximately 90 metres into Table Bay, and the east breakwater approximately 140 metres. A revetment connecting the two breakwaters will be approximately 540 metres long. No development will occur in the new bay formed by the breakwaters and revetment. The proposed revetment and breakwaters will be constructed in phases over approximately 3 years.

New mixed-use development is proposed on the portion of the site currently located within 100 metres of the highwater mark, which will accommodate residential, hotel, leisure, and commercial uses, with residential accommodation options such as hotels, serviced apartments, and private apartments. The orientation and massing of buildings will respond to the coastal setting and maximise outward views of the ocean. Approximately 78 000 m^2 of bulk will be allocated from the existing

† As measured from the existing cadastral boundary.

development rights permitted within the V&A Waterfront. Development rights are already in place for a portion of the Granger Bay precinct not included in this Scoping and EIA.

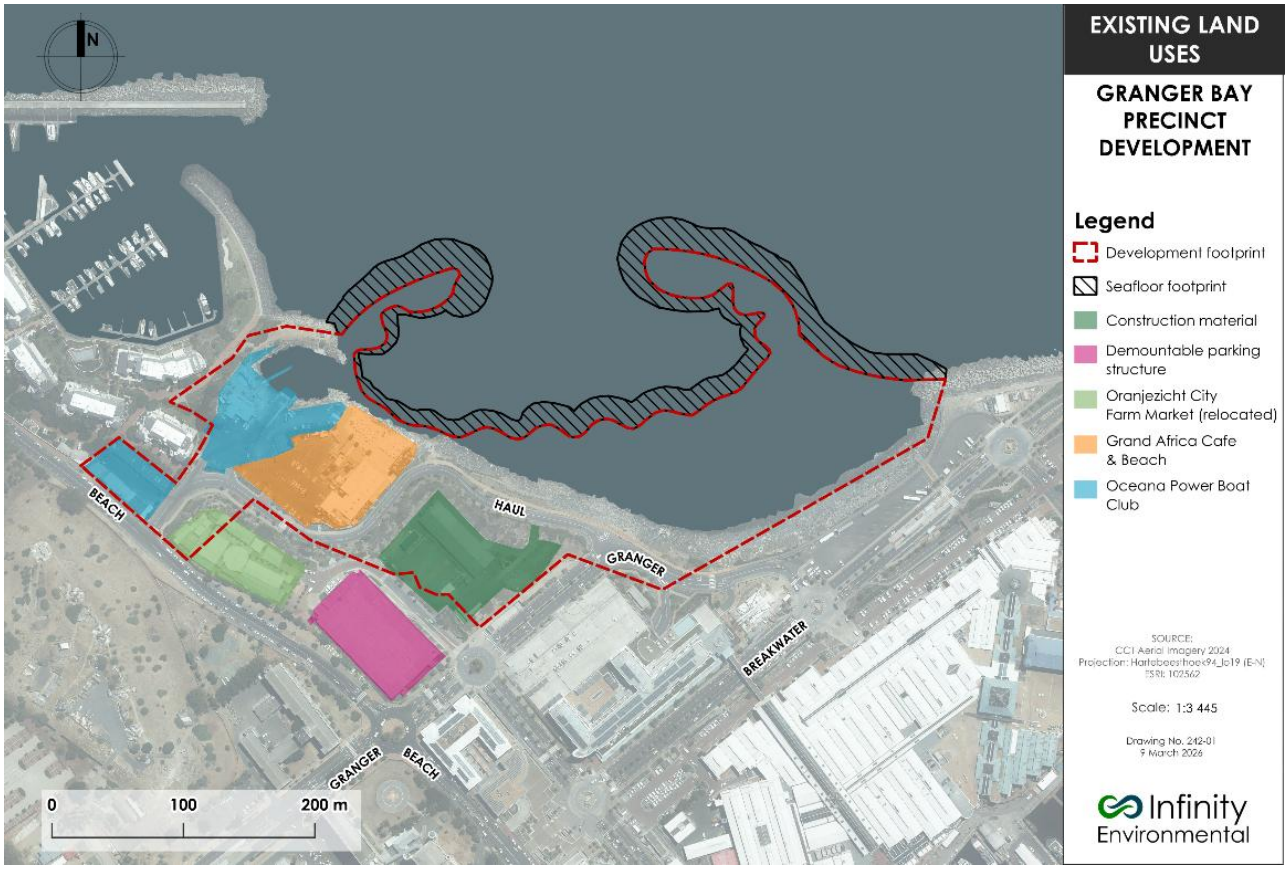


Figure 1-3: Existing land uses on and adjacent to the proposed site

In the course of this EIA process, the City of Cape Town has approved an additional 440 000m^2 of development rights for the V&A Waterfront area more broadly, of which approximately one-third is anticipated to be utilised in the broader Granger Bay precinct including parts of the project site. The unallocated development rights pre-dating the most recent approval are also still available for use, and as the implementation of the proposed Granger Bay development is envisaged to have a duration of at least 20 years, future projects may draw down from either of these sets of rights. The origin of the development rights to be utilised will affect the applicability and implementation of the Transport Impact Assessment's mitigation measures as described in Section 6.4.10, but will not have any effect on the remainder of the impacts assessed in this EIA.

New public amenities will include the new bay, providing sheltered waters for boating, kayaking, and swimming. Land-based amenities will include a coastal public walkway, a slipway, a fixed quayside, a landscaped promenade, tidal pools, pedestrian paths, and open areas. Access to the coastline is a key principle of the development, as envisaged in the Integrated Coastal Management Act. The development plans include a new coastal public walkway and a landscaped promenade, which allow for an uninterrupted coastal boardwalk from the V&A Waterfront through Granger Bay to connect via Beach Road with the Sea Point Promenade. This will be accessible to the public in the same way that the other public areas in the Waterfront are open to the public.

The Granger Bay development will be supported by various transport modes, including MyCiTi, Park & Ride, and micro-mobility services, with enhanced integration between these modes. No major access road upgrades are proposed.

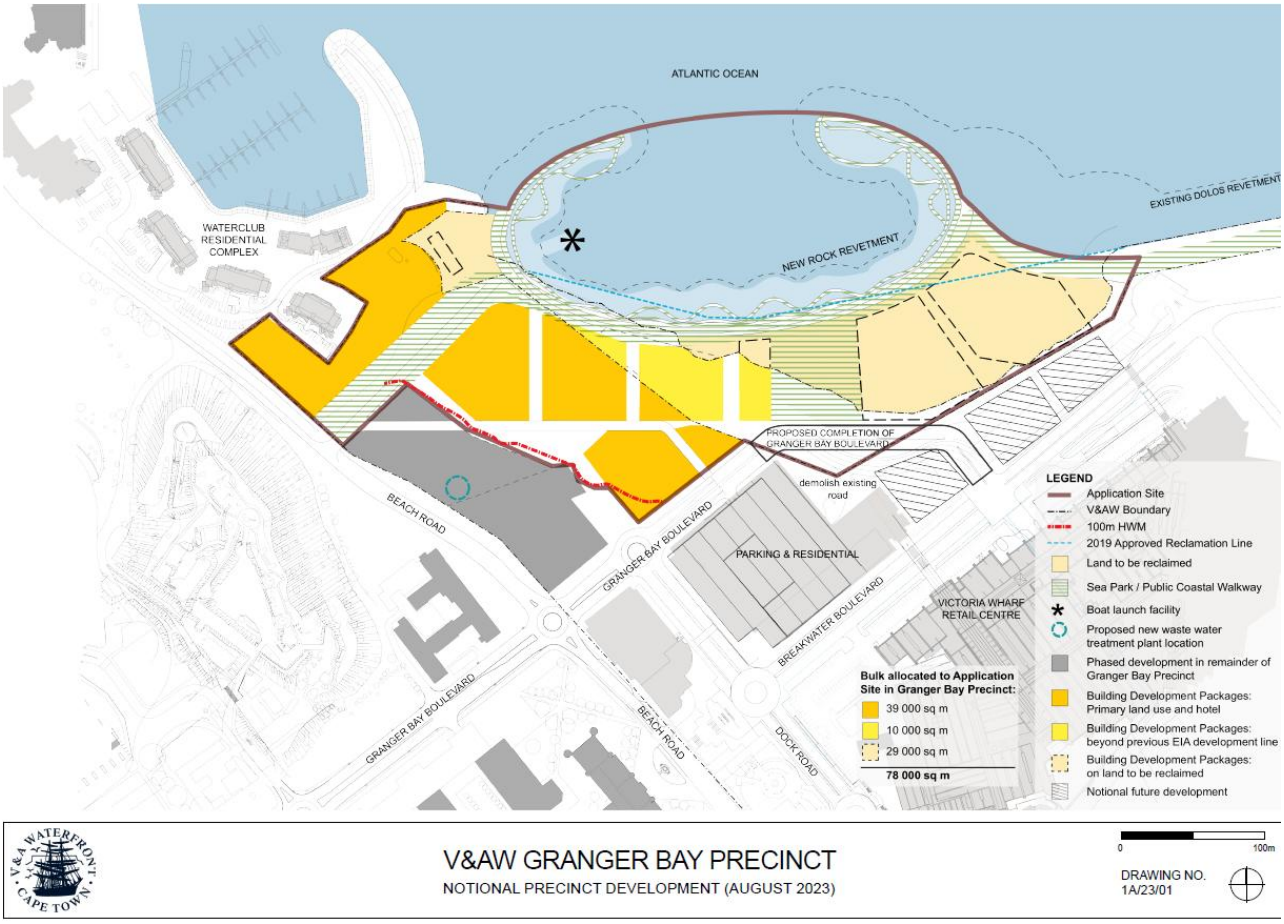


Figure 1-4: Proposed development and expansion of the V&A Granger Bay Precinct

Wastewater management, potable water supply, solid waste removal and disposal, and electricity supply will be accommodated within the existing infrastructure capacity. Service requirements are anticipated to include the following:

- Potable water will be supplied from the City of Cape Town, supplemented in future by the V&A Desalination Plant, which has been designed for current water demands and future growth of the property, including the application site.
- Wastewater generated from the development will be discharged to the municipal sewer system (in the Green Point marine outfall catchment) in the short term, and it is anticipated that in the longer term it will be treated by a new wastewater treatment plant to be constructed by the V&A Waterfront. No additional sewer upgrades will be required as they fall within the existing bulk rights, and the future plant does not form part of the application.
- The V&A Waterfront stormwater network is self-contained, with no upgrades needed to the City of Cape Town's system. An existing 1.5m diameter stormwater drain in Granger Bay will be extended to the new revetment and designed to accommodate storm surge events. Additional outfalls are planned through the sea wall/revetment. Basic on-site stormwater quality management is planned. Stormwater is discussed in more detail Section 2.4.3.
- A full new electrical distribution network is planned for the site. The design of this proposed new infrastructure has been carried out based on preliminary discussions held with the CoCT.

- The V&A's solid waste handling centre has existing capacity to manage the proposed waste generated from the proposed developments.
- More detail on the service requirements for the proposed development is provided in Chapter 2 of this report.

1.7 Applicant

The applicant and landowner is **V&A Waterfront Holdings (Pty) Ltd**, a privately-owned South African company with local shareholding.

1.8 EIA team

The V&A Waterfront has appointed **Infinity Environmental (Pty) Ltd** as the independent Environmental Assessment Practitioner (EAP) to undertake the Scoping and EIA for this application. The terms of reference for this appointment have been determined with reference to the requirements of the relevant legislation, namely the NEMA EIA Regulations, 2014 (as amended).

The EAPs responsible for this Scoping and EIA are Jeremy Rose and Tarryn Solomon, both duly registered with the Environmental Assessment Practitioners Association of South Africa (EAPASA). Contributors to this EIA Report include Candidate EAPs Kaylyn Heinrich, Olivia Murgatroyd, Kelly Gilmour and Kudakwashe Chimatira. Jeremy Rose is a registered EAP and Professional Natural Scientist with more than twelve years' experience in environmental management. Tarryn Solomon is a registered EAP with over 18 years' experience in environmental assessment. The curricula vitae of the EAPs are attached as Appendix A, together with the required declarations and undertakings.

The team includes various specialists who have prepared Impact Assessments. The EIA team is supported by a professional team appointed by V&A Waterfront, including town planning, engineering, and urban design experts. The EIA team is listed in Table 1-1 overleaf.

Table 1-1: Environmental Impact Assessment Team

Name	Qualifications and registrations	Role	Organisation
Kaylyn Heinrich	B.Sc. Hons, Cand. EAP, Cand.Sci.Nat.	Candidate EAP	INFINITY ENVIRONMENTAL
Jeremy Rose	B.Sc. Hons, Reg. EAP 2019/1116, Pr.Sci.Nat 120148 (Environmental Science)	Environmental Assessment Practitioner (EAP)	
Tarryn Solomon	B.Sc., Reg. EAP 2019/1671	EAP (Internal review)	
Cindy Postlethwayt	B Soc Sci MCRP APHP Pr.Plan.	Heritage Practitioner	Cindy Postlethwayt
Megan Anderson	Pr.L.Arch	Visual Impact Assessment Specialist	Megan Anderson Landscape Architects

Name	Qualifications and registrations	Role	Organisation
Kaylyn Heinrich	B.Sc. Hons, Cand. EAP, Cand.Sci.Nat.	Candidate EAP	INFINITY ENVIRONMENTAL
Jeremy Rose	B.Sc. Hons, Reg. EAP 2019/1116, Pr.Sci.Nat 120148 (Environmental Science)	Environmental Assessment Practitioner (EAP)	
Tarryn Solomon	B.Sc., Reg. EAP 2019/1671	EAP (Internal review)	
John Gribble	M.A. ASAPA	Archaeological Impact Assessment Specialist	TERRAMARE ARCHAEOLOGY
Enrique Julyan	MSc Eng Pr Eng	Oceanographic Impact Assessment Specialist	WML COAST CONSULTING ENGINEERS
Amy Wright	MSc Pr.Sci.Nat	Marine Impact Assessment	ANCHOR environmental
Megan Jackson	MSc		
Dr Adam Rees	PhD Pr.Sci.Nat		
Dr Barry Clark	PhD		
Dr Simon Elwen	PhD	Marine Mammal Specialist	SEA SEARCH
Alex Kempthorne	Master's in City and Regional Planning SAPOA	Socio-economic Assessment	URBAN-ECON Development Economists
Mwajuma Kamanzi	MCom (Economics)		
Sergei Kiewiet	BSc Engineering (Civil)	Transport Impact Assessment	Motion CONSULTING ENGINEERS
Philippa Burmeister	Pr.Sci.Nat Reg.EAP	Climate Change Impact Assessment	srk consulting
Gareth van der Walt	B.Eng. (Chem)		
Joss Cahi	Hydrologist		
Demos Dracoulides	*M.Sc. Mech. Eng.*	*Noise Impact Assessment*	DDA ENVIRONMENTAL ENGINEERS

1.9 Objectives for the Scoping Process (Completed)

Scoping was the initial part of the S&EIA process, which is graphically illustrated in Figure 1-5. The primary objective of the Scoping Report was to provide an overview of the proposed project and key issues that required assessment during the EIA phase, and to allow the opportunity for the identification of additional issues that may require assessment. The Scoping Phase began with the compilation of a Scoping Report, which provided an overview of the proposed project, provided context for the proposal, and included information obtained from the then draft impact assessments and baseline studies. The report was amended based on inputs received from I&APs during the first 30-day commenting period. An application for environmental authorisation was submitted, and the Draft Scoping Report was made available for a further 30-day commenting period. The Draft Scoping Report was finalised based on inputs received and submitted to the competent authority (DEA&DP) for approval on 15 January 2026. DEADP issued correspondence on 2 March 2026 approving the Scoping Report (Appendix E) and the Plan of Study for the EIA process, thus concluding the Scoping Phase of this process.

1.10 Objectives for the EIA Process

EIA is the second part of the S&EIA process, which is graphically illustrated in Figure 1-5. The primary objective of the EIA Report is to assess the impacts identified in the Scoping Report. The EIA builds on the Scoping Report, providing information on the aspects of the project that result in negative or positive impacts, the significance of these impacts before and after mitigation, as well as mitigation measures for negative impacts and enhancements for positive impacts, where possible.

The purpose of the EIA process is to:

- Address issues that have been identified through the Scoping Process;
- Assess alternatives to the proposed activity comparatively;
- Assess all identified impacts and determine the significance of each impact; and
- Recommend actions to avoid/mitigate negative impacts and enhance benefits.

This report, including the relevant specialist reports, is made available for a 30-day commenting period, and will be further refined where required based on comments received. The scientific and technical assessment by the EIA and technical teams will be complemented and tested through consultation with state departments that administer related legislation, and public participation by the public and interested and affected parties, including nearby landowners and occupiers.

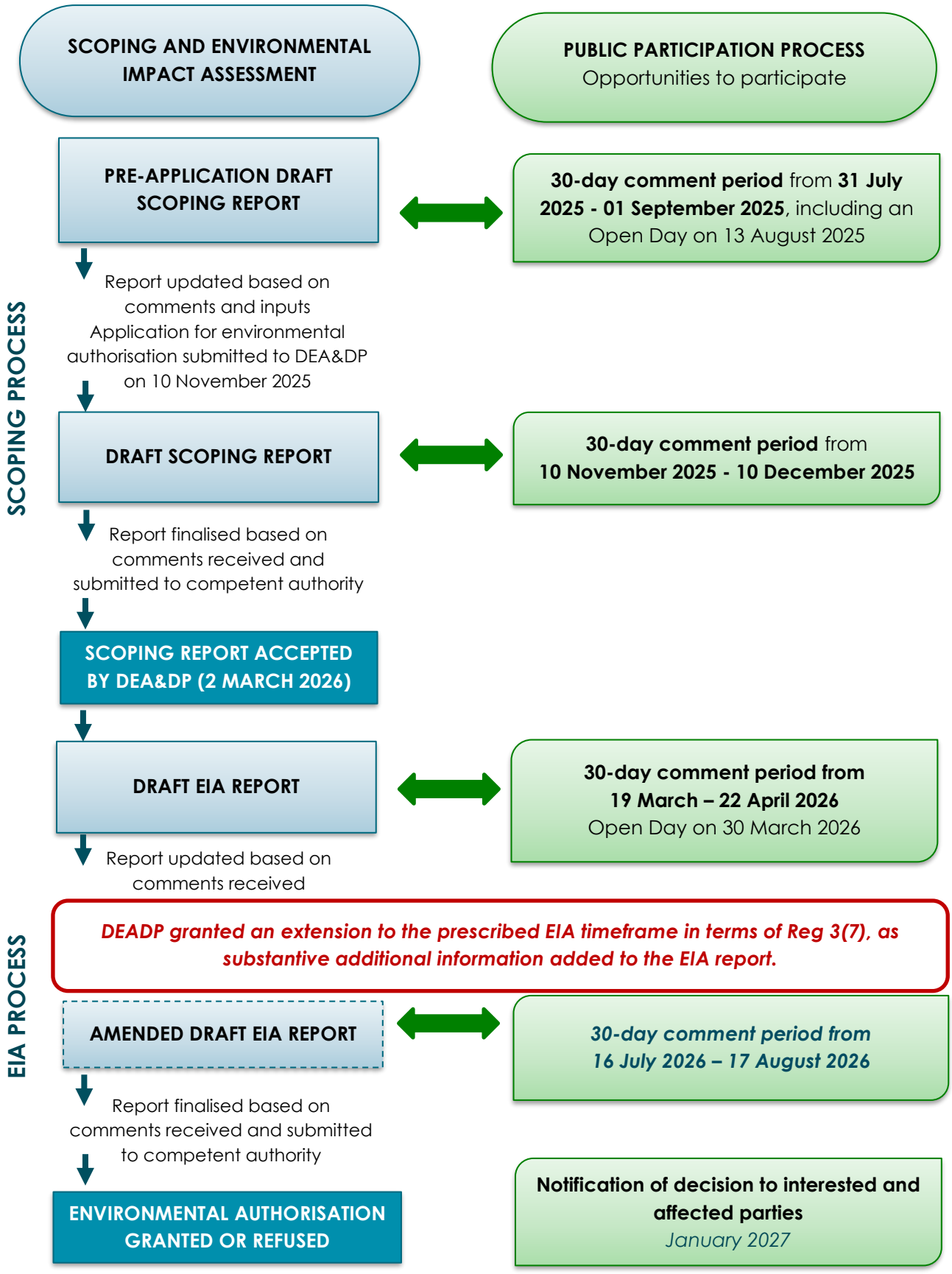


Figure 1-5: Overview of the Scoping and EIA Process and associated public participation

1.11 Structure and contents of this report

What is an Environmental Impact Assessment Report?
The Environmental Impact Assessment (EIA) Report forms the detailed assessment phase of the EIA process. Its purpose is to evaluate the potential environmental and socio-economic impacts identified during the earlier stages of the process and to provide a comprehensive analysis of the significance of these impacts before and after mitigation. The EIA Report describes the proposed activity and alternatives in detail, outlines the biophysical and socio-economic characteristics of the receiving environment, and incorporates the findings of specialist studies. It also identifies feasible mitigation and enhancement measures to manage impacts and recommends conditions for approval.

The primary objective of the EIA Report is to present decision makers and stakeholders with sufficient, accurate information to comment on the proposed development and to guide informed, transparent decision making.

This EIA Report provides information relevant to the project and assesses the impacts of the project. The required contents are stipulated in Appendix 3 of the EIA Regulations, 2014, which specifies the objectives of the EIA process as including:

- Identification of policies and legislation relevant to the activity;
- Consideration of the need and desirability of the proposed activity;
- Identification of the development footprint within the approved site based on an impact assessment;
- Identification of the most ideal location for the activity within the development footprint of the approved site as contemplated in the accepted scoping report based on the lowest level of environmental sensitivity identified during the assessment;
- Determine the nature, significance, consequence, extent, duration and probability of the impacts and the degree to which these impacts can be reversed, cause irreplaceable loss of resources, and can be avoided, managed or mitigated.
- Identification of suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

The report is structured as follows:

- Chapter 1 provides background and an introduction to the project and the EIA process
- Chapter 2 explains the project proposal, and describes alternative proposals considered
- Chapter 3 describes the site and its surroundings in relation to environmental sensitivities
- Chapter 4 sets out the legislative and policy context relevant to the application
- Chapter 5 explores the motivation for the project, and considers need and desirability
- Chapter 6 is the environmental impact assessment
- Chapter 7 details the public participation process
- Chapter 8 is an environmental impact statement summarising findings and conclusions
- Chapter 9 is a bibliography

Appendices to the report include specialist assessments conducted to date, and technical and related information summarised in the EIA Report.

1.11.1 Requirements of the National Environmental Management Act EIA Regulations

In terms of legal requirements, the EIA Report must satisfy the requirements of Appendix 3 of the amended 2017 NEMA EIA Regulations (as noted in Regulation 23 (3) of the GN R326). Table 1-2 outlines how the legislated requirements are addressed in this draft EIA Report.

Table 1-2: Requirements of Appendix 3 of the amended 2017 NEMA EIA Regulations (as noted in Regulation 21 (3) of the GN R326).

Section of Appendix 3 to the EIA Regs (NEMA)	Content requirement	Report Section
3. (1) (a)	Details of - i. the EAP who prepared the report; and ii. the expertise of the EAP, including a curriculum vitae;	Appendix A
3. (1) (b)	the location of the development footprint of the activity on the approved site as contemplated in the accepted scoping report, including: (i) the 21 digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; and (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	Section 2.7.1 Section 3.1
3. (1) (c)	a plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is- (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Section 3.1 Table 3-1
3. (1) (d)	a description of the scope of the proposed activity, including- (i) all listed and specified activities triggered and being applied for; and (ii) a description of the associated structures and infrastructure related to the development;	Section 1.2 Chapter 2
3. (1) (e)	a description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context;	Chapter 4
3. (1) (f)	a motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred development footprint within the approved site as contemplated in the accepted scoping report;	Chapter 5
3. (1) (g)	a motivation for the preferred development footprint within the approved site as contemplated in the accepted scoping report;	Section 2.7
3. (1) (h)	a full description of the process followed to reach the proposed development footprint within the approved site as contemplated in the accepted scoping report, including: (i) details of the development footprint alternatives considered; (ii) details of the public participation process undertaken in terms of regulation 41 of the regulations, including copies of the supporting documents and inputs; (iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; (iv) the environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (v) the impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts- (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated; (vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks; (vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (viii) the possible mitigation measures that could be applied and level of residual risk; (ix) if no alternative development footprints for the activity were investigated, the motivation for not considering such; and	Section 2.7 Chapter 7 Section 7.6 Section 3.7 Chapter 6 Section 2.7.3

Section of Appendix 3 to the EIA Regs (NEMA)	Content requirement	Report Section
	(x) a concluding statement indicating the location of the preferred alternative development footprint within the approved site as contemplated in the accepted scoping report;	Section 8.6
3. (1) (i)	a full description of the process undertaken to identify, assess and rank the impacts the activity and associated structures and infrastructure will impose on the preferred development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity, including- (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;	Section 6.2 Section 6.5
3. (1) (j)	an assessment of each identified potentially significant impact and risk, including- (i) cumulative impacts; (ii) the nature, significance and consequences of the impact and risk; (iii) the extent and duration of the impact and risk; (iv) the probability of the impact and risk occurring; (v) the degree to which the impact and risk can be reversed; (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and (vii) the degree to which the impact and risk can be mitigated;	Chapter 6
3. (1) (k)	where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;	Section 6.5
3. (1) (l)	an environmental impact statement which contains- (i) a summary of the key findings of the environmental impact assessment: (ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers; and (iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;	Chapter 8
3. (1) (m)	based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation;	Section 6.5
3. (1) (n)	the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment;	Section 8.6
3. (1) (o)	any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation;	Section 8.6
3. (1) (p)	a description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed;	Within each specialist report.
3. (1) (q)	a reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;	Section 8.6
3. (1) (r)	where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised;	Section 8.6
3. (1) (s)	an undertaking under oath or affirmation by the EAP in relation to- (i) the correctness of the information provided in the reports; (ii) the inclusion of comments and inputs from stakeholders and I&APs; (iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and (iv) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;	DECLARATION OF THE EAP
[Para. (t) deleted by GN 517 of 11 June 2021.]		
3. (1) (u)	an indication of any deviation from the approved scoping report, including the plan of study, including- (i) any deviation from the methodology used in determining the significance of potential environmental impacts and risks; and (ii) a motivation for the deviation;	N/A
3. (1) (v)	any specific information that may be required by the competent authority; and	N/A
3. (1) (w)	Any other matter required in terms of section 24(4)(a) and (b) of the Act.	N/A

1.12 Parallel process in terms of the National Environmental Management: Integrated Coastal Management Act, 2008

The proposed development requires both a Scoping and EIA process and an application to the Minister in terms of the ICMA. The Scoping and EIA process is required in terms of the 2014 EIA Regulations, as amended, and the competent authority for the Scoping and EIA process is determined based on section 24C of NEMA as the provincial authority, the Western Cape's DEA&DP.

In terms of section 7C of the Integrated Coastal Management Act (Act 24 of 2008), the reclamation of land requires a pre-approval by the national Minister of Environmental Affairs (DFFE) to be ratified by Parliament, prior to an environmental authorisation being issued in terms of NEMA, and a final decision by the Minister after an environmental authorisation is granted.

The intended integration of the two processes has been clarified by the two authorities involved and is summarised in Figure 1-6 below. Notable interactions between the processes include:

- The land reclamation application must be submitted to the national authority before an application for EA can be submitted to DEADP.
- Both processes involve specialist studies of potential impacts on the environment. Because these studies are required at an early stage in the ICMA application process, they have been concluded earlier than would ordinarily be the case in a Scoping and EIA. Specialist studies have been updated since the Scoping Report.
- The Scoping and EIA process will occur in parallel with the Ministerial Pre-approval and Parliamentary Ratification of the application for reclamation.
- Ministerial Pre-approval is required to be submitted to DEADP along with the final EIA Report.
- DEADP will make a decision on the application for EA based on the information presented in the final EIA Report.
- The Environmental Authorisation is required for the Minister to make a final decision on the land reclamation application.

On 24 July 2025, DFFE confirmed in a letter to the V&A Waterfront that "the V&AW pre-approval application has been received by DFFE on 11 July 2025; consequently, V&AW is at liberty to apply for an environmental authorisation with the relevant Competent Authority."

The Minister of Forestry, Fisheries and the Environment on 13 February 2026 invited public comment on the application in terms of section 7C (3), 7C(4)(a) and 53 of the ICMA, in Government Gazette No. 54123 and GN. No. 7122 (Refer to **Appendix F**). The notice confirms the following:

"The reclamation application and approval process in the ICM Act does not remove the need for an environmental authorisation in terms of Environmental Impact Assessment Regulations, 2014 (EIA Regulations), as amended under the National Environmental Management Act, 1988 (Act No. 107 of 1998) (NEMA). The pre-approval decision by the Minister will be submitted to Parliament for ratification in accordance with section 7C(4)(b) of the ICM Act. The Minister's pre-approval decision will become invalid should Parliament fail to ratify it. The legal effect of Parliament failing to ratify pre-approval renders the reclamation process null and void. The same applies when the applicant's environmental authorisation is refused; the pre-approval and Parliamentary pre-approval ratification become invalid. Where Parliament ratifies the pre-approval process, the V&A Waterfront will be expected to submit the final reclamation application, environmental authorisation granted, ratified pre-approval decision for the Minister's final decision. The Minister's final reclamation decision will be further tabled in Parliament within 60 days of making the decision."

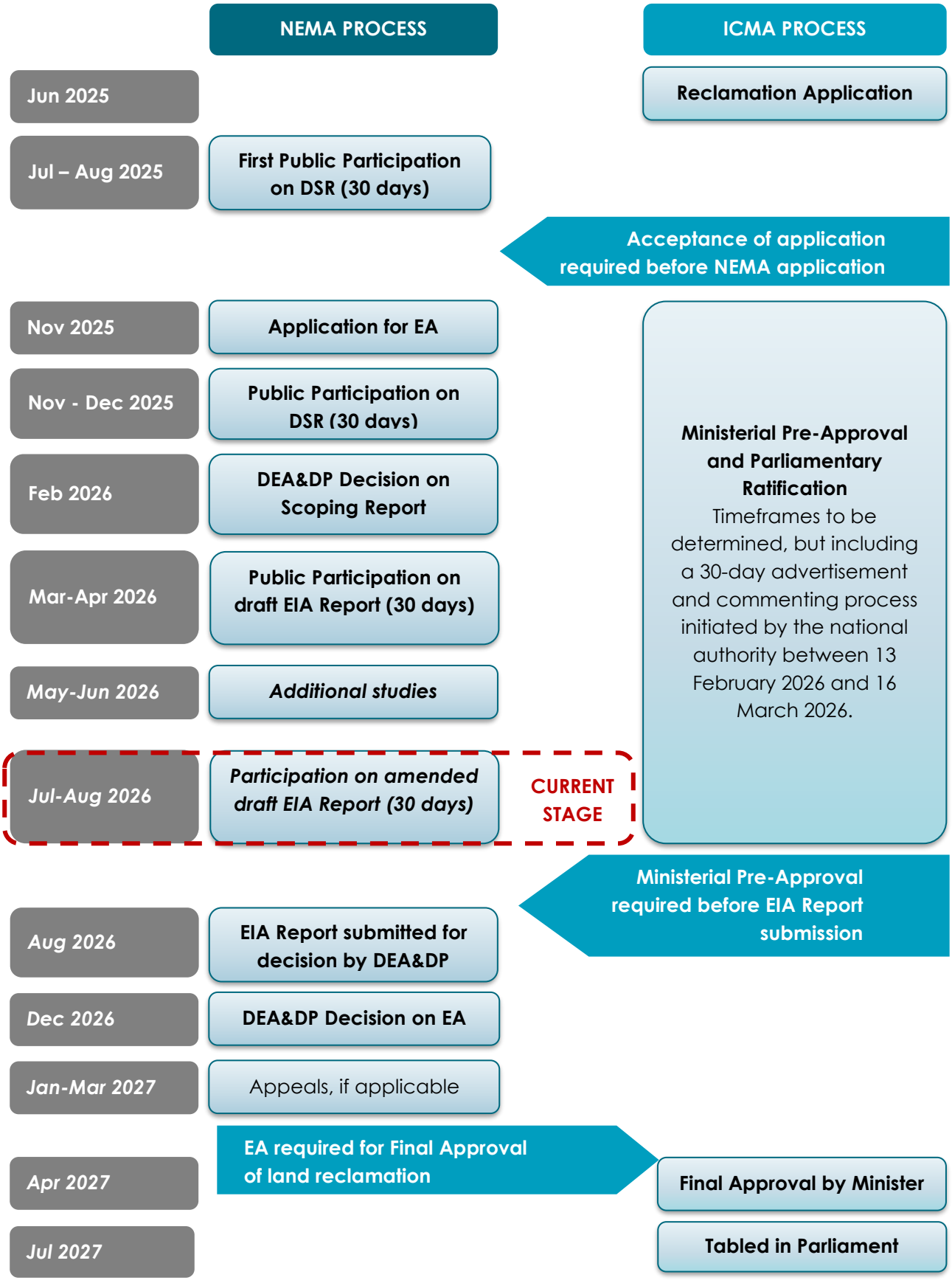


Figure 1-6: The Scoping and EIA process to be followed alongside the ICMA application, with approximate dates [updated].

CHAPTER 2
PROJECT PROPOSAL

July 2026

Amended Environmental Impact Assessment Report

INFINITY ENVIRONMENTAL

2 PROJECT PROPOSAL AND ALTERNATIVES

This chapter of the report describes the principles, informants and site selection process that informed the proposed development. The various components of the proposed development framework are described. This chapter also presents the alternative development options.

2.1 Concept design

The proposed development incorporates the reclamation of approximately *3.8* hectares of land (measured from the *existing cadastral boundary*) from Table Bay to accommodate new coastal public amenities and new mixed-use development. This reclamation will be protected by a new rock revetment and two breakwaters forming a new protected bay approximately 3 hectares in extent. The west breakwater will extend approximately 90 metres into Table Bay, and the east breakwater approximately 140 metres. A new rock revetment connecting the two breakwaters will be approximately 540 metres long. This coastal infrastructure will provide the required protection for the proposed mixed-use development in the precinct as well as the existing infrastructure on Erf 149294 (e.g., parking structures and Breakwater Boulevard). **The proposed concept design is provided in Figure 2-1.** Design informants and details are outlined in the following sections.

A new land parcel comprising the reclaimed land and existing undeveloped land beyond the cadastral edge of the V&A would be created as a result of the reclamation. New mixed-use development is proposed inland of the highwater mark, including residential, hotel, leisure, and commercial uses, with residential accommodation options such as hotels, serviced apartments, and private apartments. The orientation and massing of buildings will respond to the coastal setting and maximise outward views of the ocean. The new coastal infrastructure on reclaimed land will include two breakwaters and an inner revetment with armoured slopes.

New public amenities will include the new bay, providing sheltered waters for boating, kayaking, and swimming. Land-based amenities will include a paved pedestrian coastal walkway, a slipway, a fixed quayside, a landscaped promenade, tidal pools, pedestrian paths, and open areas. The proposed promenade will extend the coastal pedestrian route from the V&A Waterfront through Granger Bay to connect via Beach Road with the Sea Point Promenade. The route will include outdoor leisure and recreational facilities, and will be supplemented by approximately 100m of public pedestrian paths along each breakwater.

A new slipway within the new bay will be constructed to replace the existing slipway at Oceana, and construction plans will provide for continuous access to a functioning slipway throughout construction. Functional requirements of the marine economy have also been considered, and space has been allocated at the ground floor level near the proposed new slipway for rentals, clubhouses, equipment storage and other facilities. Slipway access and parking requirements have informed the design, specifically regarding space allocation for trailer parking (Figure 2-11).

This proposal replaces an earlier approved scheme authorised by the provincial authority in April 2018 (Ref 16/3/1/2/A7/4/3058/12). The 2018 approval was for a 310 m straight-line extension of the dolos revetment and a rock revetment of 160 m in length in a westerly direction across Granger Bay, replacing the gravel beach and unprotected embankment. The proposed design allows for improved coastal defence, a more inclusive design, and additional public coastal amenities relative to the earlier scheme.

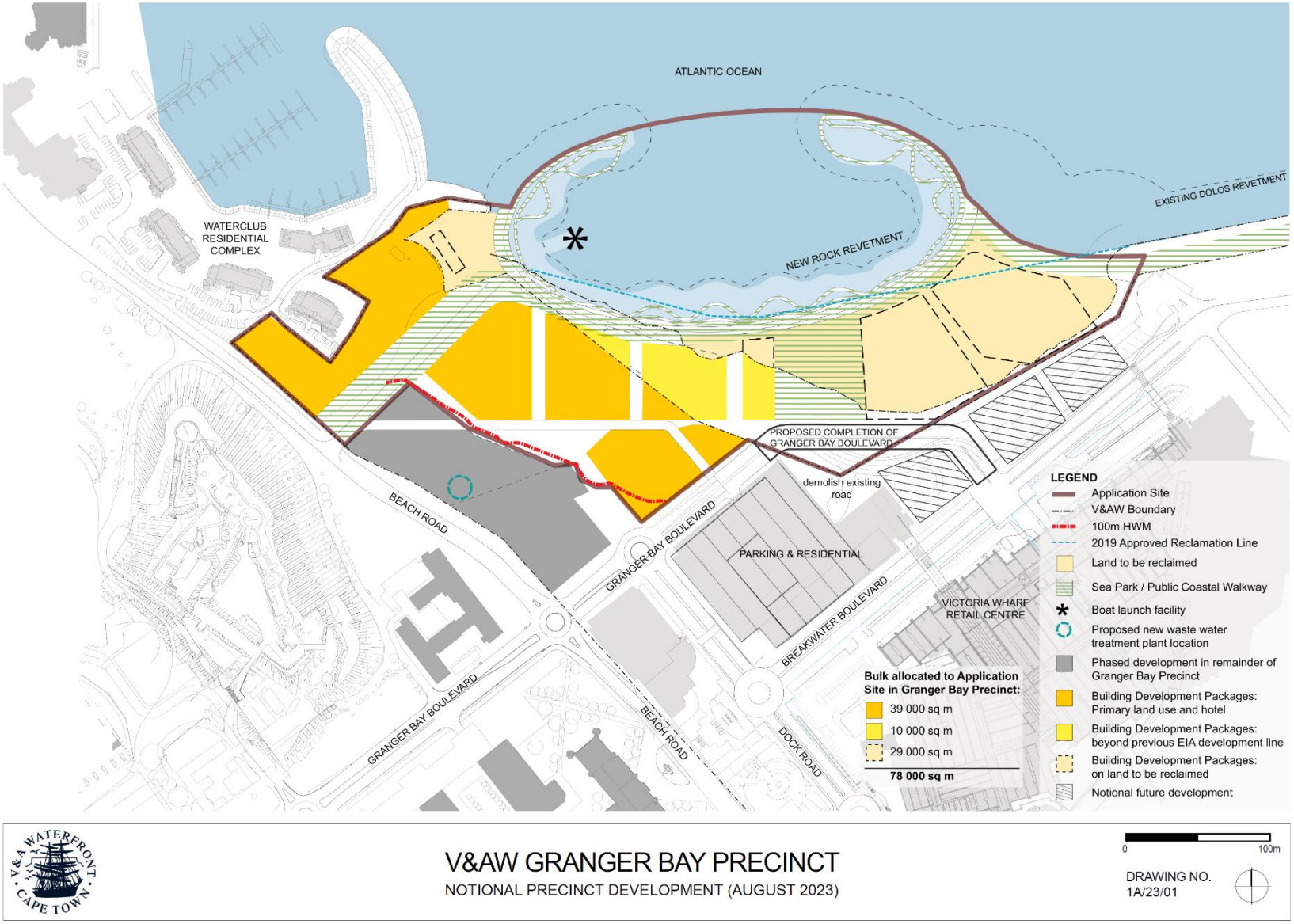


Figure 2-1 Proposed concept Development (V&A Waterfront, 2023)

2.1.1 Principles and informants

The proposed development includes the replacement of coastal defence structures and the reclamation of land at the V&A Waterfront, a locally and internationally popular destination and living and working environment. These are in support of new public coastal amenities, including a coastal sea park with leisure and recreational facilities, and mixed-use development spaces comprising residential, hotels, leisure, and commercial development with outward views of the sea. Operational requirements of ocean users have also been a key consideration in conceptual designs for the coastal infrastructure.

The V&A Waterfront is spatially constrained as the surrounding land is largely developed, forms part of an active harbour, and/or includes significant heritage resources that constrain development potential. Land reclamation will improve public access to the coast, provide additional public amenities, and allow underutilised land to be optimised for development. Moreover, to maintain the site and improve resilience against storm surges, the current artificial embankment and gravel beach need to be upgraded. These improvements are necessary as the existing gravel beach and unprotected embankment are not adequate to provide the essential shore protection for future site development or maintenance of the status quo.

The City of Cape Town's Spatial Development Framework (2023) recognises the V&A Waterfront as a part of the Inner Urban Core and a metropolitan node within the City of Cape Town's Metropolitan Area. The proposed expansion of the Granger Bay Precinct aligns with the Provincial Spatial Agenda to grow the Western Cape Economy in partnership with the private sector, non-governmental and community-based organisations. Moreover, the proposed development aligns with the spatial logic to cluster economic infrastructure and facilities along public transport routes to maximise the coverage of these public investments within the Provincial Spatial Development Framework (2014). Moreover, the Catalytic Land Development Programme (CLDP), specifically the Gateway catalytic precinct, aligns with this development as it aims to unlock the economic potential of the Foreshore area and strengthen linkages between the Central Business District (CBD) and V&A Waterfront.

Some of the details presented herein may change during the detailed design phase and upon further investigations, but sufficient detail is available to permit a robust assessment of potential environmental impacts.

2.1.2 Land Uses

The subject of this EIA is the development of the proposed new land parcel to be created above the new highwater mark, and the portion of undeveloped land located seaward of 100 m of the existing highwater mark. Development rights for a portion of the Granger Bay precinct (landward of the 100m setback line from the highwater mark) were approved in March 2014. This separate development is not subject to the current EIA process.

The proposed development will be defined by a coastal amenity zone and two breakwaters. The breakwaters and new rock revetment will protect the public coastal amenity zone of approximately 57 000m^2, that will include an approximately 30 000 m^2 bay area for water-based activities such as boat launching, leisure craft, sailing, kayaking, swimming, and a 1.5 ha coastal park (public amenity) on the land side.

A backdrop of low to medium-rise mixed-use development is proposed to frame this coastal amenity. This will comprise residential, hotels, leisure, and some commercial development. The layout is intended to promote uses and activities that could take advantage of the ocean location of the

site. The types of residential accommodation being considered include hotels, serviced apartments, and private apartments.

In the course of this EIA process, the City of Cape Town has approved an additional 440 000m^2 of development rights for the V&A Waterfront area more broadly, of which approximately one-third is anticipated to be utilised in the broader Granger Bay precinct including parts of the project site. The unallocated development rights pre-dating the most recent approval are also still available for use, and as the implementation of the proposed Granger Bay development is envisaged to have a duration of at least 20 years, future projects may draw down from either of these sets of rights. The origin of the development rights to be utilised will affect the applicability and implementation of the Transport Impact Assessment's mitigation measures as described in Section 6.4.106.4.10, but will not have any effect on the remainder of the impacts assessed in this EIA.

The orientation of development blocks and streets as well as the massing of buildings will respond to the coastal setting and maximise outward views of the ocean. In these buildings, large outdoor terraces are envisaged. Building heights will be in accordance with parameters established in terms of the heritage approval issued in 2011 which preserves a view arc across Granger Bay. Within the view arc, no buildings will be higher than 21,5m or approximately 5 floors. Outside the view arc, towards the intersection of Beach Road and Granger Bay Boulevard, building heights may step up.

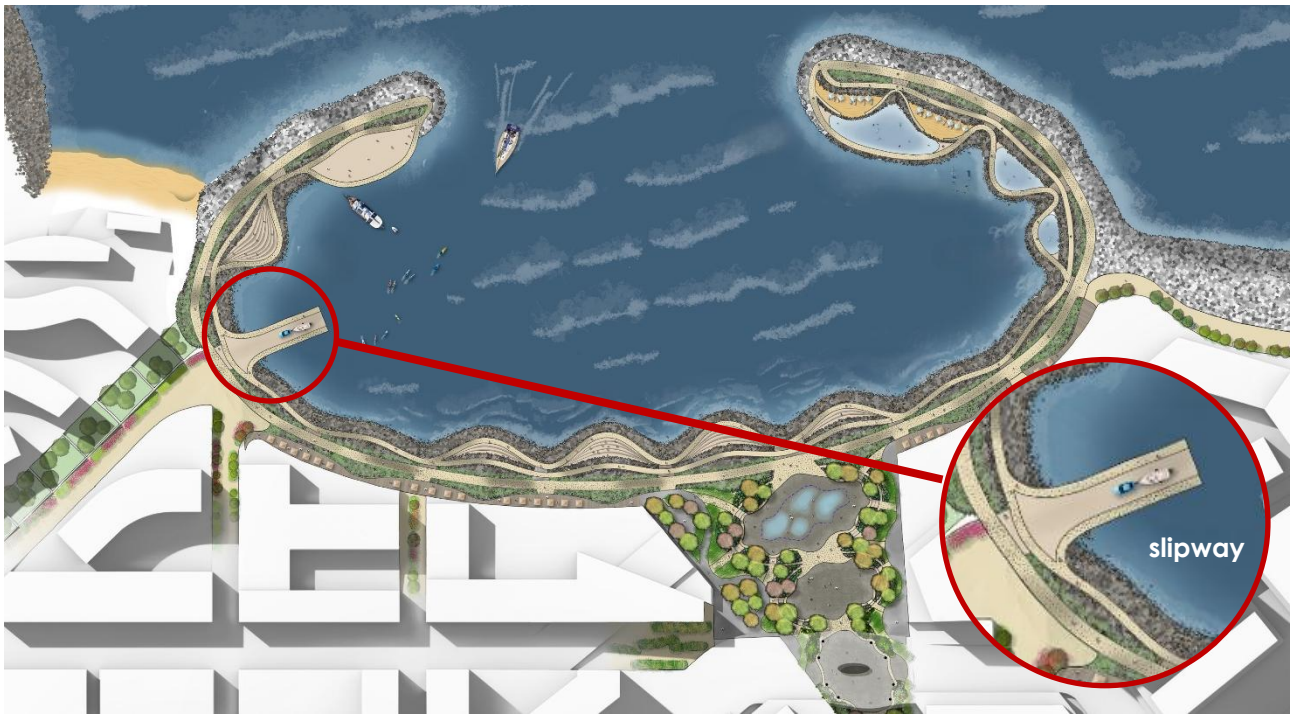


Figure 2-2: Proposed conceptual land uses and public amenities.

2.1.3 Site selection informants

The site approved for this application in the Scoping process was selected based on the approved Development Framework for the V&AW (1991), part of a package of plans which included the proposed site and recognised that the V&A Waterfront property would be developed over an extended period, depending on market demand. Various investigations, including environmental and engineering assessments over the last decade, contributed to an iterative design process.

The proposed development is designed based on a long history of consultations, engagements, and specialist assessments. The development proposal was formulated in line with the applicable planning frameworks and identified informants.

2.1.4 Contextual informants

A key informant of this development is the location of the precinct in relation to significant public facilities. The Granger Bay Precinct is a comparatively large site, with ocean-facing views along the Atlantic coastline, and the area is of high value. Due to the underutilised and underdeveloped nature of the site, there is an opportunity to integrate the surrounding areas with the V&A development. The development will be designed in response to its unique interface between the City and the Atlantic seaboard.

2.1.5 Economic informants

The V&A Waterfront contributes significantly to economic productivity and is an established feature of the Western Cape economic landscape. It is therefore essential that the Granger Bay precinct and V&A Waterfront continue to maintain their status as a beneficial financial investment. The proposed development is intended to provide a high-quality living environment and sustain the surrounding economy. Thus, this proposed development has the potential to enable large investments in public infrastructure and add to the V&A Waterfront's amenity value. The realisation of this development is largely dependent on the construction of coastal public amenities and residential areas.

Moreover, the development will provide additional spaces for recreational activities in the Granger Bay precinct, such as walking, running, swimming, Stand-up paddle-boarding (SUP), and kayaking, thereby providing additional tourism spaces within the precinct. Consideration has been given to functional requirements of the marine economy, as well as the new slipway and ancillary facilities.

2.1.6 Heritage informants

Heritage resources, including Robben Island, Table Mountain and specifically Fort Wynyard southwest of the site, are significant informants for this proposed development. The Granger Bay Precinct Plan (approved by the City of Cape Town in 2014) phases and informants align with the 2011 **Heritage Record of Decision (RoD)**. The Fort Wynyard heritage significance has been established, and any development within the Granger Bay precinct must conform to the following:

- **The Arc of Fire**: the historic arc of fire from a gun emplacement at Fort Wynyard, where no buildings may exceed a height of 21.5m in the arc, and buildings of 10 and 16 floors are acceptable outside of the arc (Figure 2-3).
- **Spatial field**: the area around Fort Wynyard, including the identified sloping grassed battlements, the Beach Road Reserve and a portion of the site, must be integrated and made into a single spatial field.
- **Water's edge view**: the 30-metre-wide view corridor from the main gun emplacements to the coastline needs to be kept open to ensure a visual linkage between Table Bay and Fort Wynyard.
- **Coastal public access**: a pedestrian route along the Granger Bay water's edge would be key to provide views of the Robben Island and Table Mountain Heritage Sites, and must be included.

Any additional design requirements that emerge from the consultation with heritage authorities will be incorporated. Figure 2-3 shows the proposed development boundary (blue) in relation to the various heritage informants, including the Arc of Fire, view corridors (green) and buildings of heritage significance (brown).



Figure 2-3: The historic 'Arc of Fire' from Fort Wynyard

Figure 2-4 and Figure 2-5 below indicate the manner in which the proposed development responds to this key informant.

2.1.7 Zoning

The original zoning of the V&A Waterfront, Transport Zoning 1: (Development Zone) was established in accordance with the March 1993 zoning agreement between CoCT, Transnet, and V&AW. This zoning and the associated Package of Plans approach to planning and development in the Waterfront constituted the development rules for the V&AW. This zoning permitted the V&A Waterfront to be developed for a compatible mix of industrial, recreation, cultural, education, residential, retail and office purposes up to a maximum of 613 859 m^2 of development bulk. More specifically, the Granger Bay precinct was earmarked for "waterfront residential, marina" development. The proposed development will fall within the basket of rights for the Granger Bay precinct.

During the course of this EIA process, the existing erven were part of a rezoning application to Mixed Use (MU3), which was approved on 1 December 2025 in terms of the City of Cape Town Municipal Planning Bylaw (2015). A final notification was issued after conclusion of the appeal period, on 21 January 2026. More detail on the current zoning of the site is provided in Section 4.16.8.

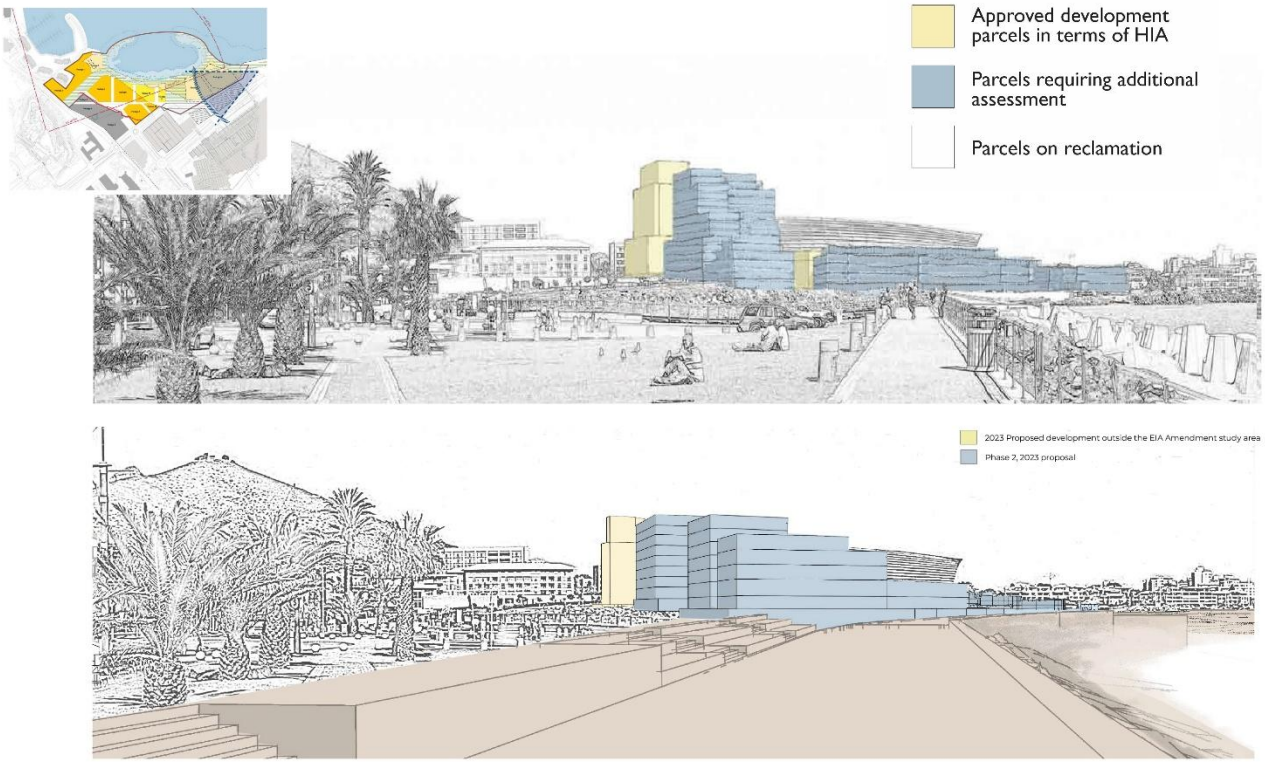


Figure 2-4. Development proposals (maximum building envelopes) along proposed coastal promenade, looking southwest.

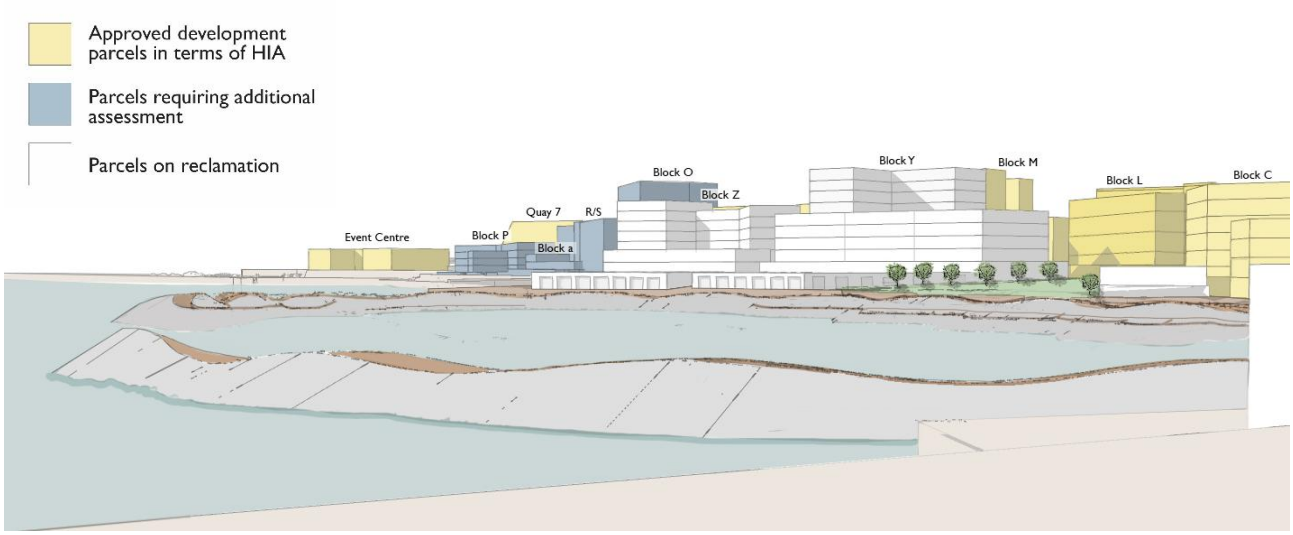


Figure 2-5. Development proposals (maximum building envelopes) on and adjacent to proposed reclaimed land, looking east across the bay.

2.1.8 Environmental and engineering informants

The coastline along the site consists of random fill material and dolosse that do not provide the necessary protection against storm conditions. The current exposed coastline poses a threat to development opportunities in the Granger Bay precinct due to periodic wave impact and intense weather conditions (e.g., storm surges) impacting residential, retail, and commercial operations. Extreme storm surges are expected to become more frequent due to climate change; therefore, it is essential that coastal developments have adequate coastal protection to prevent flooding damage.

With the development of new coastal protection, design linkages must be made with the coastal promenade, and adequate public access must be provided.

Harbours or embayments are typically designed based on a set of functional requirements such as the protection required for vessels, allowable overtopping, and prevention of damage to infrastructure and equipment (**Appendix G1**). The western breakwater serves to reduce wave heights within the new bay, whilst the intention of the eastern breakwater area is primarily its amenity value and will therefore be designed accordingly, accounting for public access and public amenities such as tidal pools and walkways. Both breakwaters will encounter overtopping in certain wave conditions, but they will improve storm surge protection relative to the existing gravel beach.

Previous engineering assessments have confirmed the benefits of efficient revetment designs and land reclamation in terms of storm surges and flooding risks to public areas. Appropriate revetment designs, such as the "cascade design", can allow for reduced wave heights, circulation within the development area to promote flushing, and space for public amenities. The Wave and Hydrodynamic Modelling Study prepared by PRDW Consulting Port and Coastal Engineers is attached as **Appendix G3** to this report and summarised in the following section.

2.2 Reclamation and Coastal Infrastructure Design

Key elements of the proposed marine infrastructure forming part of the development include:

- **Breakwaters and revetments**: Provides protection from wave action and coastal erosion.
- **Capping**: Provides vehicular and pedestrian access to the breakwaters and revetments.
- **Quay** with a vertical wall and steps with provision for temporary walk-on moorings: To provide a space for public events and facilitate the mooring and boarding of vessels.
- **Slipway and permanent walk-on mooring**: To support the launching and retrieval of recreational boats.
- **Stormwater outfalls**: Culverts through the revetment for all stormwater discharge.

2.2.1 Breakwater and revetments

The breakwaters and revetments are designed as rubble mound structures, with armoured slopes that will back onto the land once reclamation behind them is complete. The design life of the revetments and breakwaters forming part of Phase 0 is selected as 50 years, which corresponds to a return period (based on a 10% probability of exceedance of the design event) of 475 years.

The armour rock will be selected quarried rock, sized according to the varying modelled energy absorption requirements along different parts of the structure. The type of quarried fill will be rock, with 80% of the rock mass below 500 kg and 20% of the rock mass above 500 kg and up to 6 tonnes. Concrete armour units (core-loc / dolos) will be installed where required to provide for shore protection.

The total calculated rock mass required for the development is approximately 351,000 tonnes to be imported from quarries over a two-year period. This equates to approximately 16 700 truckloads – averaging 35 loaded trips per day, or 4-6 trucks per hour during active daytime haulage. The quarried rock used for the land reclamation will be based on the Rock Manual (CIRIA; CUR; CETMEF, 2007).

Transportation of the rock material will be via both articulated and rigid trucks. Most material is expected to be hauled from Dorstberg and other quarries via Contermans Kloof, the N7, N1, Buitengracht (M62), Helen Suzman Blvd (M6) and Granger Bay Boulevard. Construction activity will likely be confined to standard daytime hours with deliveries restricted during commuter peaks. A detailed Traffic Management Plan will be prepared before implementation prescribing specific controls for scheduling, haul-route maintenance, signage, and coordination with MyCiTi Operations and the City's Urban Mobility Directorate to manage any short-term route or stop disruptions.

The marine works for land reclamation will be the necessary first phase of the development and will be phased over a period of around 2.5 years (Figure 2-6; PRDW, 2025).

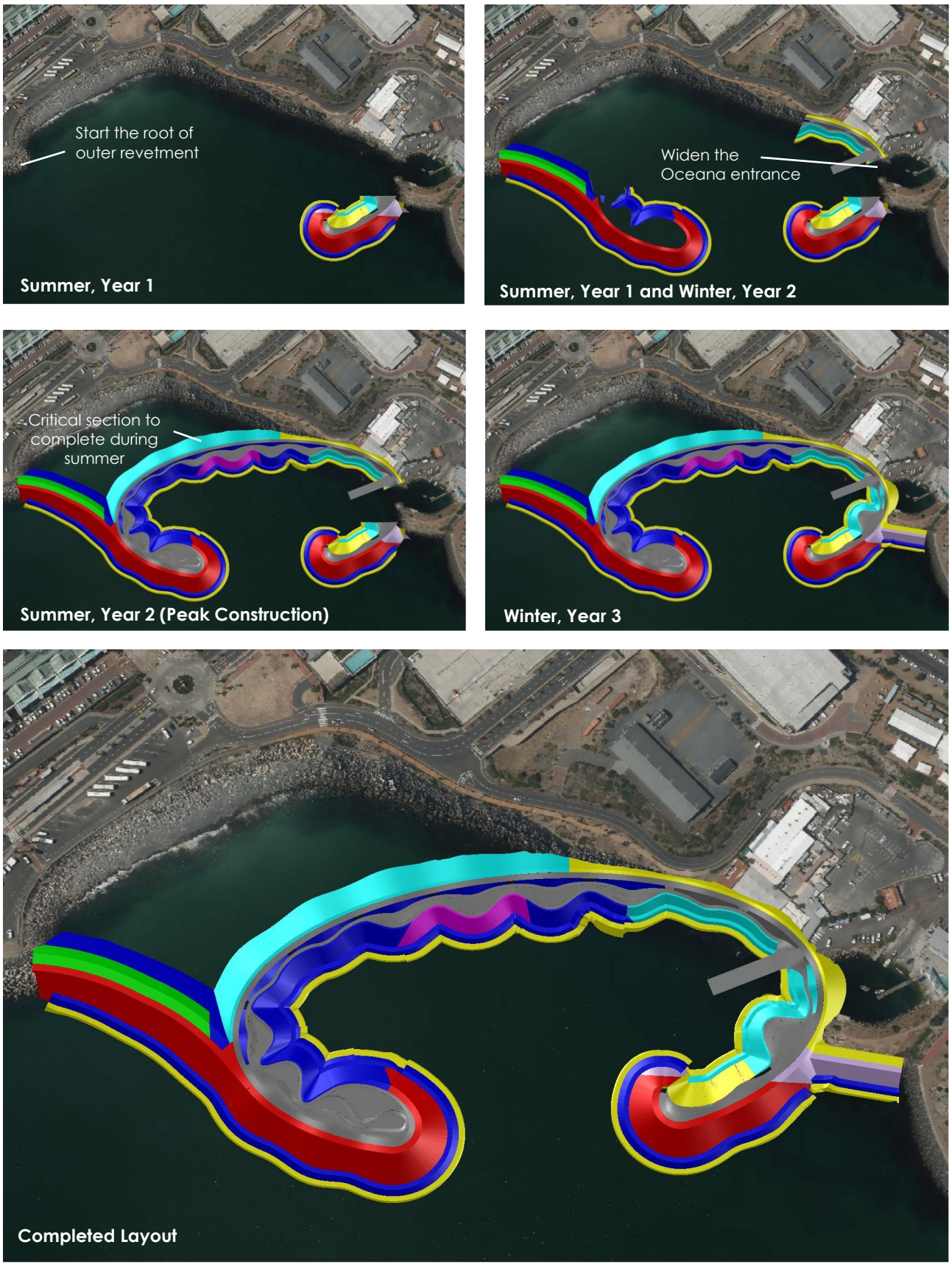


Figure 2-6: Conceptual Construction Schedule for Granger Bay Phase 0 Infrastructure (PRDW, 2025)

2.2.2 Capping

The breakwaters and coastal walkway will be capped, and walkways and stairs constructed to provide for coastal access and amenity. Plain mass concrete with an exposed aggregate finish will be used for the bulk of the concrete work. A cross fall will be provided to allow water to runoff and prevent water ponding. Stairs both for access and for other purposes such as seating will be constructed.

Plain concrete will be used wherever possible, and reinforced concrete will be used for concrete elements that are subjected to high bending and tensile loads. These elements will be designed to be durable over the design working life of the development. High-performance concrete mixes and adequate concrete cover will also be utilised to mitigate the risk of chloride-induced reinforcement corrosion. Moreover, protected reinforcement, such as basalt fibre reinforced polymer (BFRP) reinforcement or galvanised steel, will also be considered wherever possible.

2.2.3 Quay and jetty design

The purpose of the quay on the western breakwater is to provide temporary berthing facilities for fair weather use, away from the slipway. The design vessel for the quay wall area is determined by the available minimum water depth of -4 m MSL. Allowance is made for a minimum under keel clearance of 0.5 m at Mean Low Water Spring tide (MLWS, -0.35 m MSL). At Lowest Astronomical Tide (LAT, -0.77 m MSL) the allowance for wave condition is reduced to 0.33 m.

The quay wall berthing facilities are intended for fair weather operations only. The berths will not be used when wave conditions exceed a significant wave height of 0.5 m.

The quay wall will allow for the installation of temporary walk-on moorings for events during summer and autumn seasons. Access to the vessels will be via concrete stairways with staging platforms to accommodate different tidal water levels.

The maximum vessel dimensions that can be berthed at the quay are approximately 20 m in length, 6.5 m in beam width, and 2.1 m average draft with a 25t tonnage for power boats. Sail boats of up to 15 m in length can be accommodated.

2.2.4 Slipway and launch site

The public slipway and launch site will be reconstructed in a new location with associated facilities such as trailer parking. Access to a functioning slipway will be maintained throughout construction by completing the new slipway before the existing one is closed. The precise details of arrangements for managing the new slipway are still to be confirmed, but all user requirements will be taken into account and the future management practices will align with the current operational management plan, adapted to the new site.

The project will replace the existing slipway with a new publicly accessible facility designed to meet modern standards and the operational needs of the vessels that use it. The location and configuration of the new slipway in Granger Bay have been shaped by the need to provide current user groups with a functional and accessible launching point in a favourable coastal environment suited to leisure craft and recreational ocean activities. The slipway and its surroundings are intended to support small-scale maritime activity, innovation, and the identity of the V&A Waterfront. Ground-floor podium spaces nearby are planned to accommodate ocean-related businesses that will contribute to an active and integrated waterfront precinct.

Access to the slipway

The proposed slipway will be located at the northeastern end of a new road, establishing a direct vehicular connection from Beach Road to the launching facility. Trailer and vehicle bays will be designated within podium parking area in the block nearest the slipway. Overflow parking can be located on Beach Road as is the current practice. A parallel stacking lane along the approach road to the slipway will accommodate vehicles queuing to launch watercraft without disrupting primary circulation routes.

Slipway geometry

The slipway will accommodate recreational and commercial fishing boats and its geometry will be governed by the requirements of these users. The proposed new slipway will have a width of 10 meters, from edge to edge, with rock armour on either side. This width provides two traffic lanes for users (Figure 2-7).

The slipway is proposed to have a 1:8 slope over most of its length, levelling off to 1:12 near the top. The new slipway will extend further than the existing slipway, with design parameters as follows:

- At mean low-water springs tide levels (-0.53 m MSL) the slipway design provides for a minimum 0.5m underkeel clearance, and models suggest a maximum of 0.37 m wave amplitude.
- At the lowest astronomical tide (LAT) of -0.77 m MSL, the slipway will provide for a minimum 0.5m underkeel clearance and models suggest a maximum of 0.13 m wave amplitude.

The surface of the slipway will have a rough texture to enhance grip and prevent slipping. A kerb will be provided down each side of the slipway, as well as at the seaward end, to prevent users from driving off the slipway into deeper water. A walk-on jetty will be provided adjacent to the slipway to allow users to temporarily moor up against while launching or retrieving their boat. The slipway jetty is proposed to be located east of the slipway, oriented in alignment with the prevailing wave direction. The jetty will be accessed from land via a gangway designed to accommodate tidal variation and wave action. A length of 13 m and a horizontal offset of at least 15 m from the slipway are proposed (Figure 2-8). Areas surrounding the slipway and adjacent jetty will be excavated to -2.5m MSL to provide for a minimum of 1.1m draft under all conditions.

Non-motorised vessels such as kayaks and stand-up paddle boards will launch from a separate area or from a floating jetty with integrated steps. This will reduce congestion at the main slipway and improve safety and convenience for non-motorised users. Storage for these craft will be located within nearby podiums, close to the dedicated launch point.

Space near the new slipway has been allocated for rentals, clubhouses, equipment storage, and related facilities. Parking and access arrangements have been designed with reference to the existing OPBC facilities, which have served as the guideline for spatial needs.

The proposed bay formed by the two breakwaters is modelled to be safe for small craft under most conditions, and to have wave velocities and heights very similar to those in the existing slipway area. The current speeds in the new Granger Bay due to wind, tides, and ocean currents are projected to be a maximum of 0.06 m/s in summer and 0.02 m/s in winter (PRDW, 2025; **Appendix G2**). **Further details on the wave modelling and hydrodynamic studies are provided in the following sections.**

Management of the bay in relation to compatible use by watercraft and other users, will need to be agreed between the V&A Waterfront and relevant maritime authorities prior to commencement.

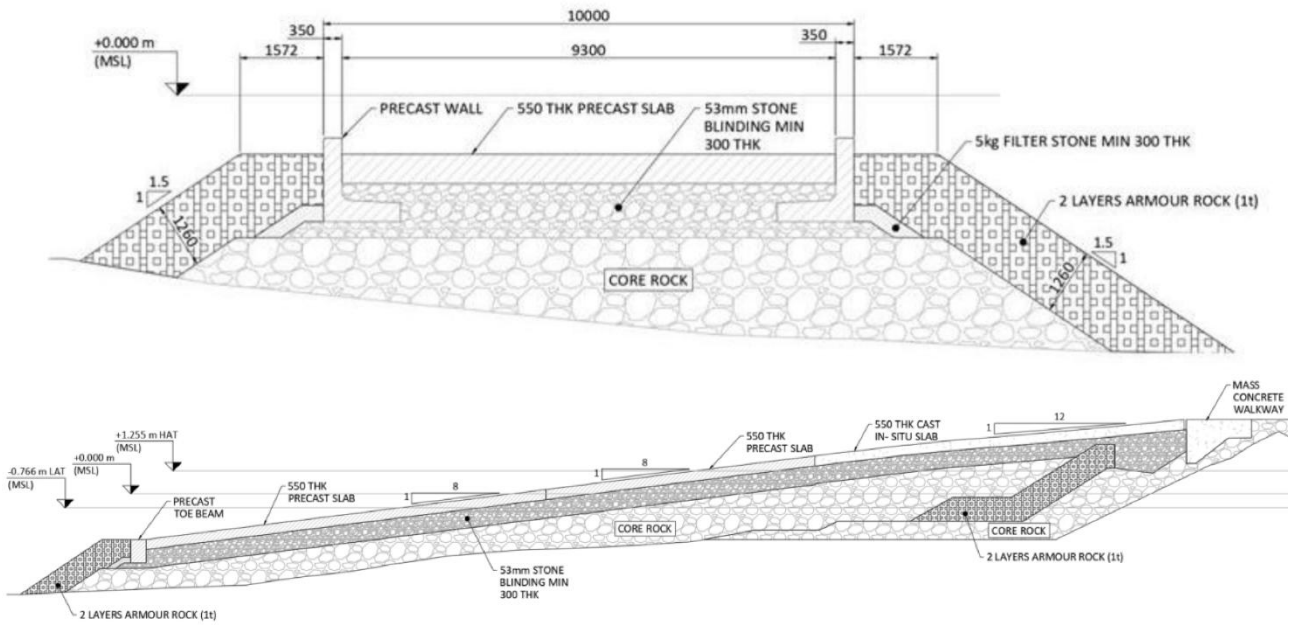


Figure 2-7. Draft engineering concept sketches of the proposed slipway in cross section (top) and long section (bottom)

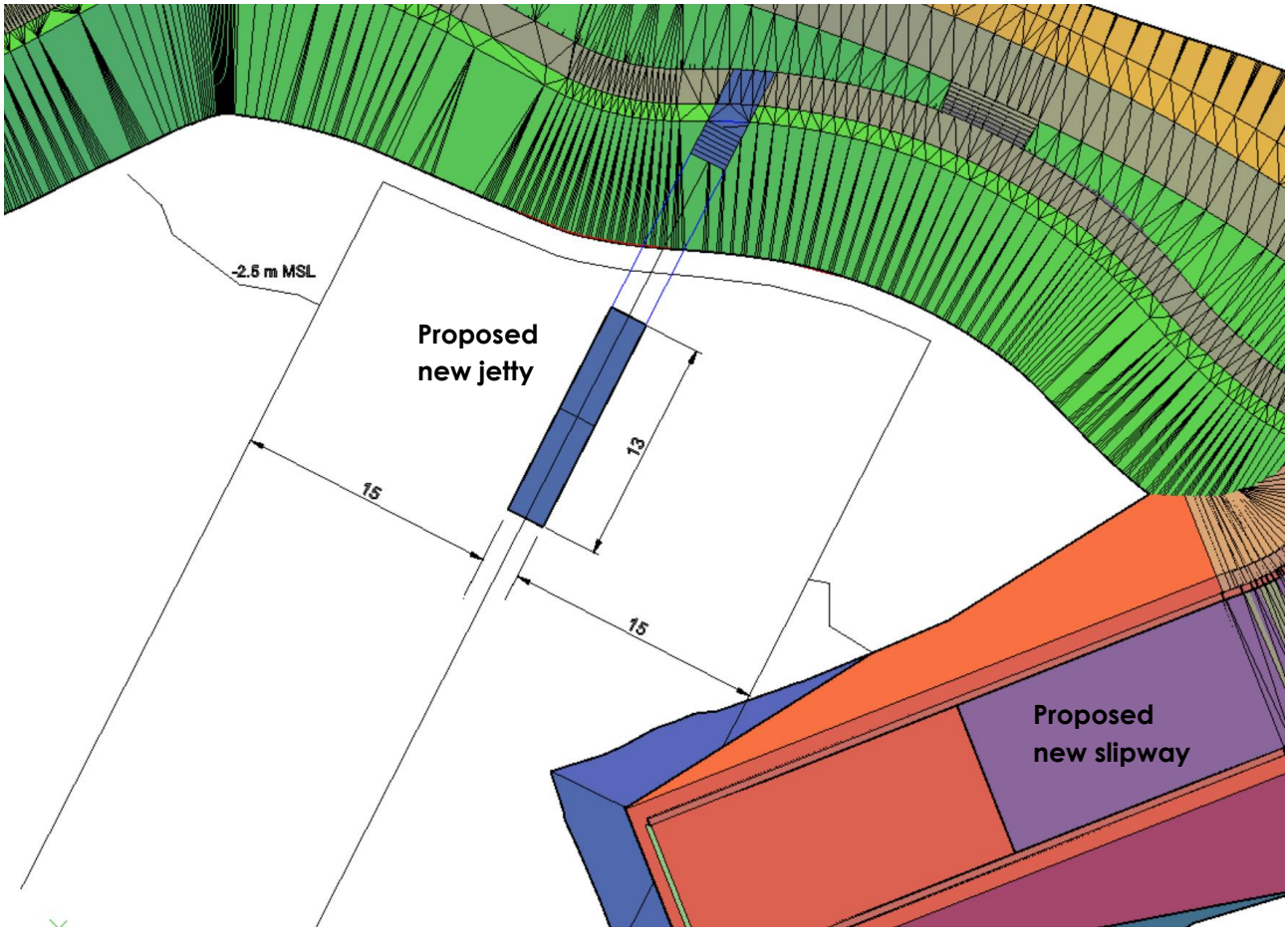


Figure 2-8. Proposed coastal infrastructure: new slipway jetty (blue) and new slipway (orange / purple).

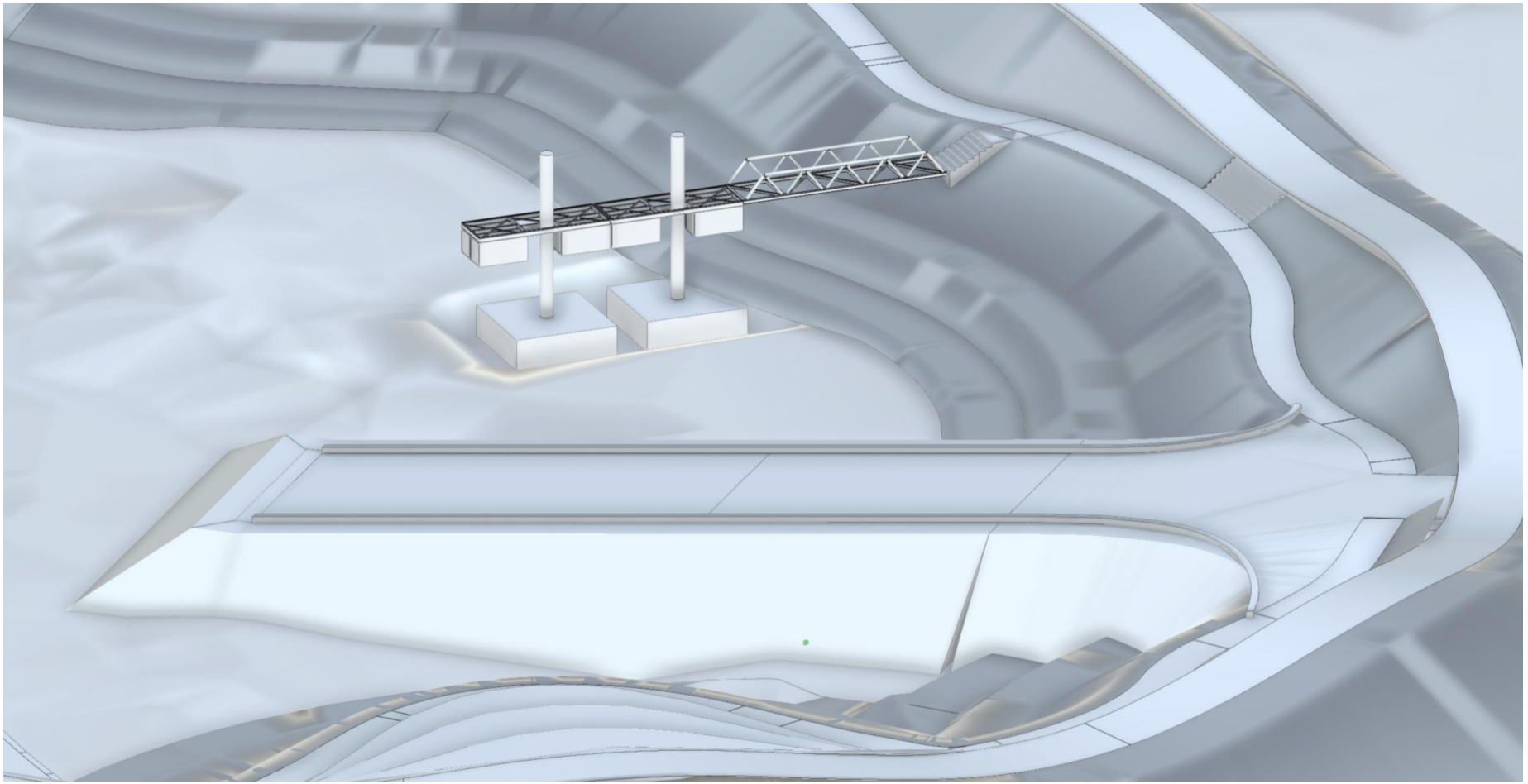


Figure 2-9. Three-dimensional rendering of the proposed slipway and jetty

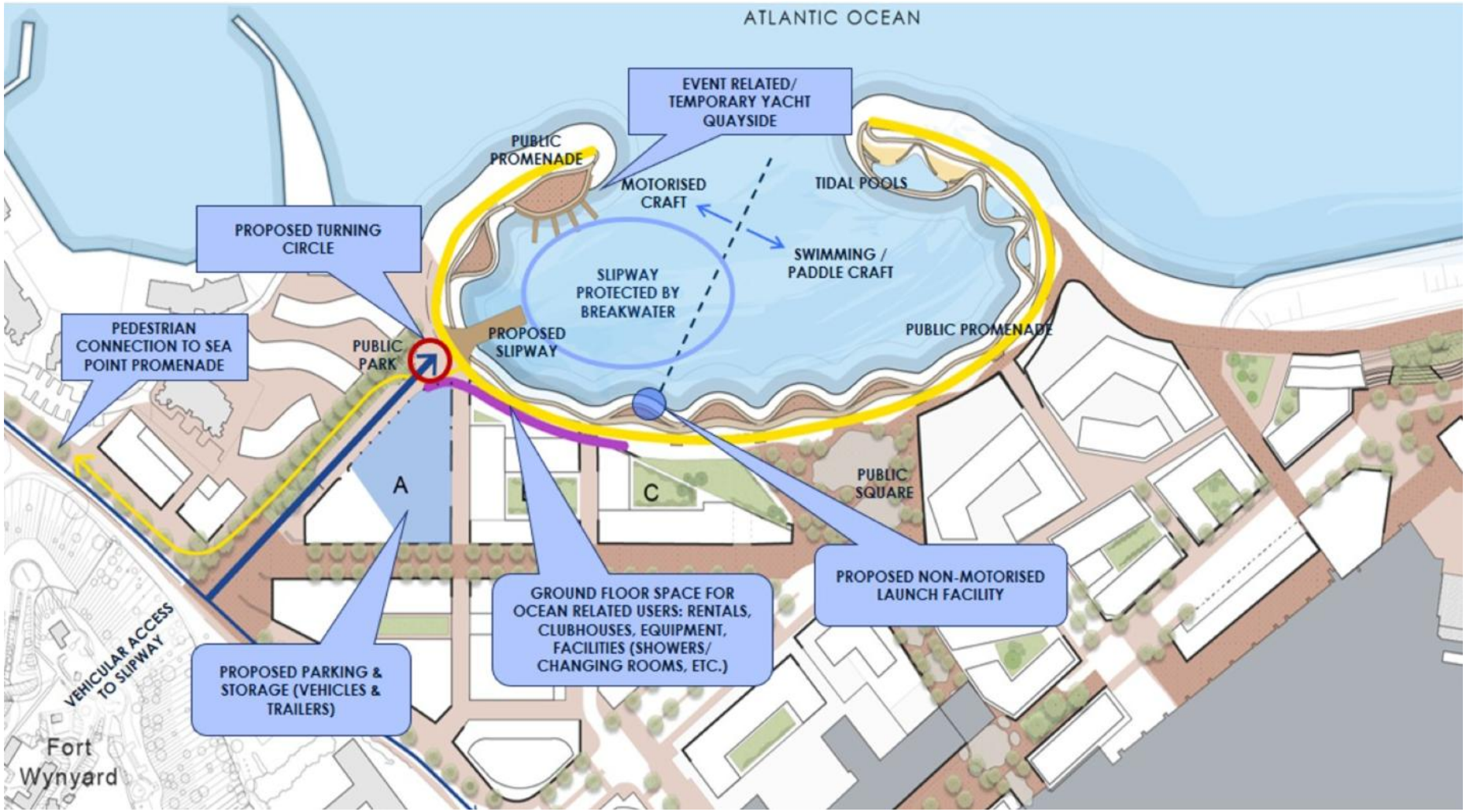


Figure 2-10: Proposed conceptual land uses with marine economy functional spaces.

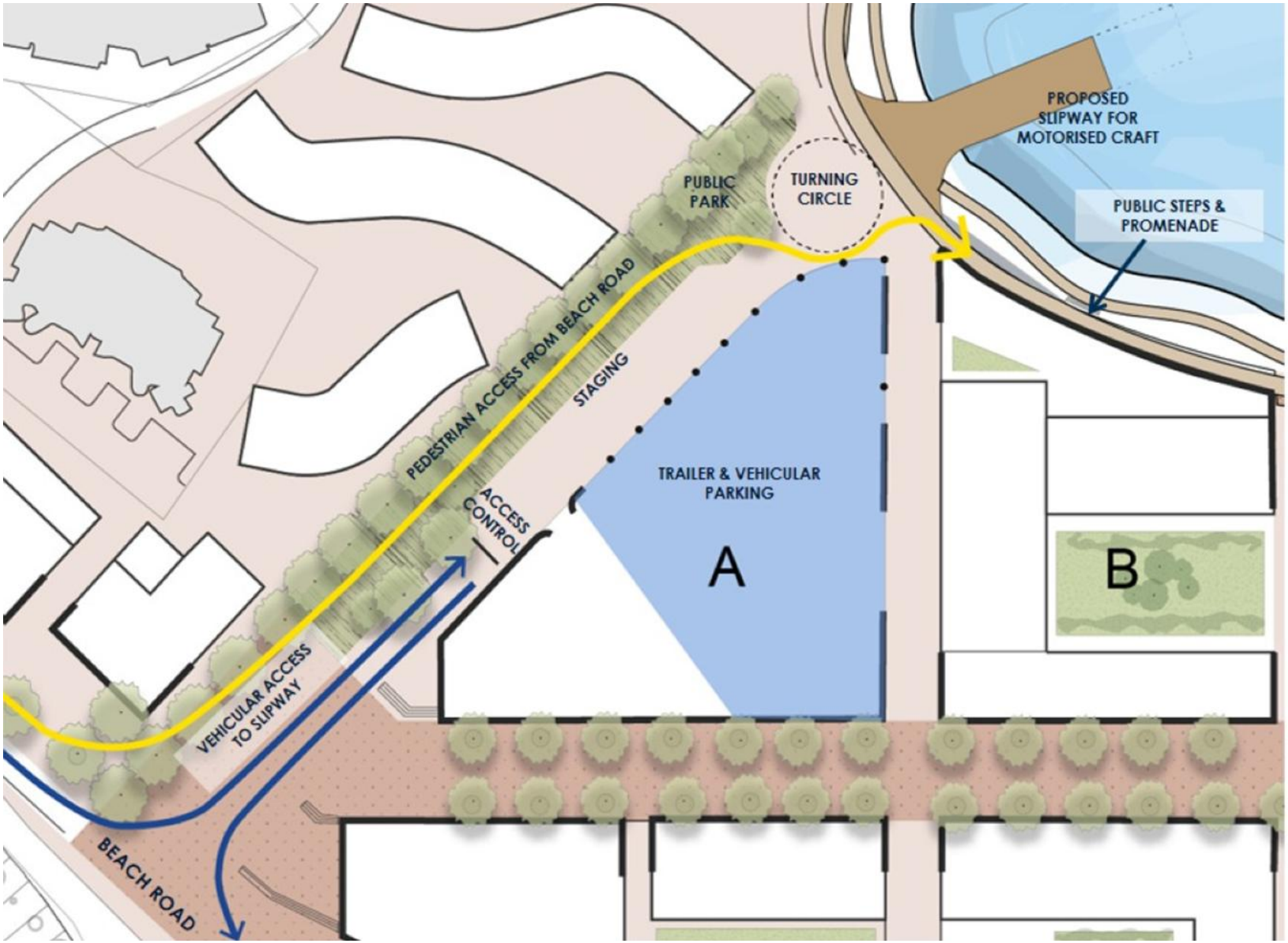


Figure 2-11: Conceptual designs of the slipway, access route, and parking.

2.3 Hydrodynamic modelling

PRDW Consulting Port and Coastal Engineers conducted a Wave and Hydrodynamic Modelling Study (2025) for the proposed development. The study assessed the potential hydrodynamic impacts of the proposed design for the proposed development, relative to the existing coastal conditions. The objective was to quantify changes in wave dynamics.

A series of reports by PRDW is referred to in the following sections, as listed below:

Table 2-1. Wave modelling and design reports referred to in text

Title	Appendix	*Content*
Functional Requirements. Draft Report No GB00-PRD-XX-XX-RP-MA-0001. 12 November 2024.	**G1**	*Design requirements and considerations*
Wave and Hydrodynamic Modelling Study. Revision D. PRDW Report No S2105-07-RP-CE-001-RD. 29 June 2026.	**G2**	*Baseline and development scenario comparisons of wave dynamics*
Wave Modelling Report. Draft Report No GB00-PRD-XX-XX-RP-MA-0002. 27 January 2025.	**G3**	*Climate change modelling to test design*

2.3.1 Modelling Approach and Scenarios

A three-dimensional hydrodynamic model (MIKE 3 Flow Flexible Mesh) was used to simulate currents, water levels and seawater temperature under summer/autumn and winter/spring conditions. The model incorporated tidal forcing, wind stress and density-driven circulation and was calibrated against available measured data. The model was applied to simulate wave transformation processes and calculate wave-induced bed shear stresses.

Three representative storm scenarios were modelled: (1) a 1-month return period storm in summer, (2) a 1-month return period storm in winter, and (3) a 1-year return period storm. Bed shear stresses were compared to a critical threshold of 0.2 N/m² to assess the potential for long-term mud accumulation, above which resuspension of fine particulate matter can be expected.

2.3.2 Current Speed and Direction Results

Currents in Granger Bay are generally weak under baseline conditions, typically less than 0.1 m/s. The proposed development reduces maximum current speeds within the new bay to approximately 0.02 m/s, compared to 0.06 m/s (summer) and 0.04 m/s (winter) under baseline conditions. Current speeds within the development remain slightly higher than those inside the existing Waterclub Marina (approximately 0.01 m/s).

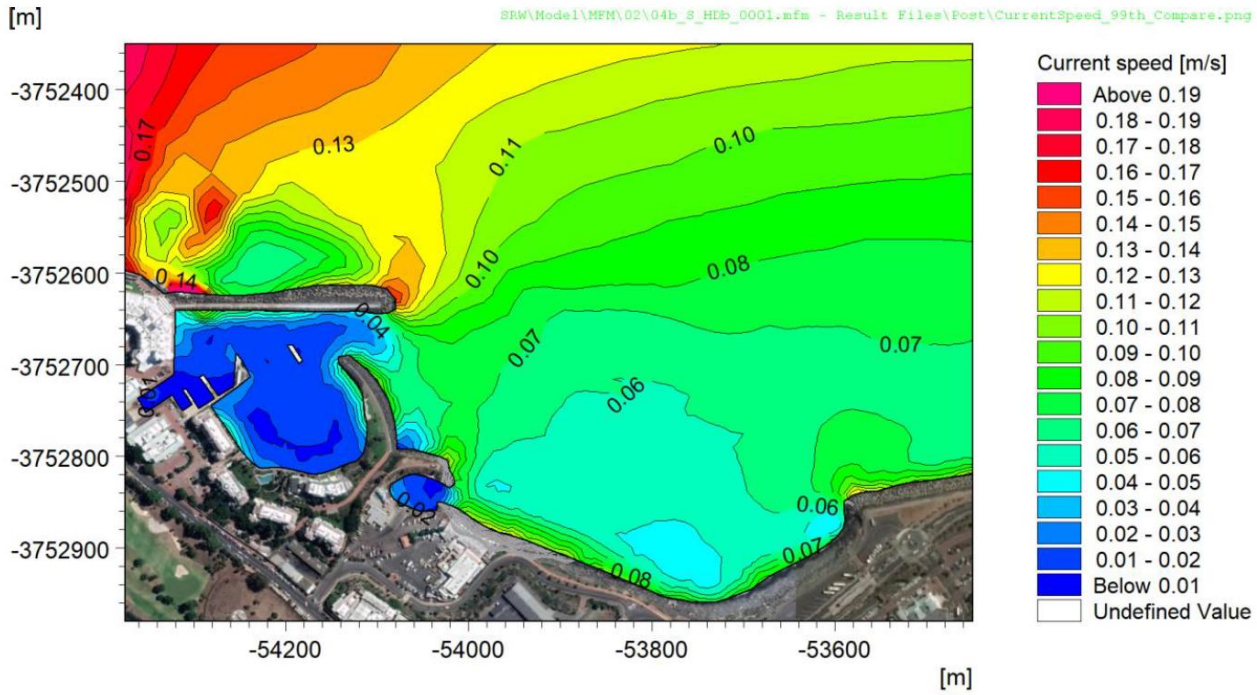


Figure 2-12: Maximum (99th percentile) depth-averaged current speed for the baseline for the summer/autumn case.

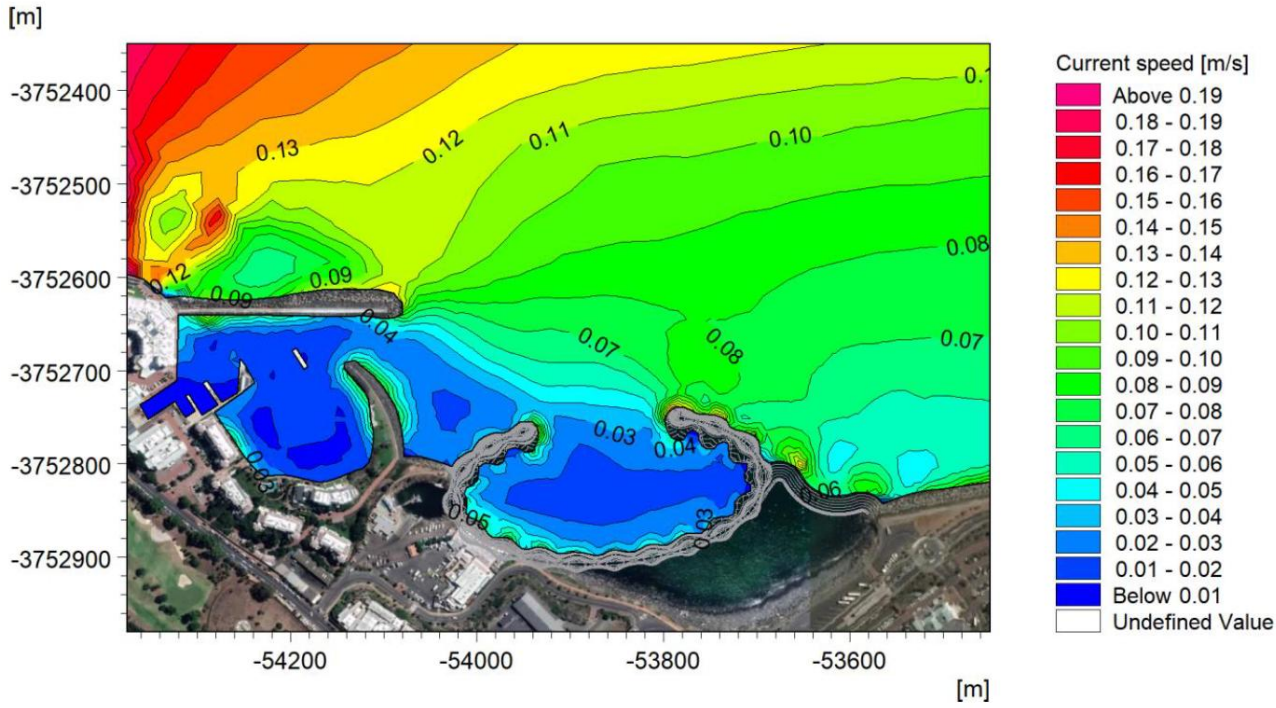


Figure 2-13: Maximum (99th percentile) depth-averaged current speed for the development for the summer/autumn case.

Residual circulation within the development forms a twin-eddy pattern that promotes internal flushing. Circulation is stronger in summer due to prevailing south-easterly winds. No significant changes in current patterns are predicted beyond approximately 300 m from the development footprint.

2.3.3 Flushing and Seawater Temperature

The proposed new bay maintains active flushing through residual circulation, although slightly weaker than under baseline conditions. Flushing remains stronger than within the Waterclub Marina.

Modelled surface seawater temperatures show no meaningful increase within the development during summer. For the winter/spring case, a small increase of approximately 0.25°C is predicted within the bay. Temperature changes are localised and no significant effects are predicted beyond the immediate development area.

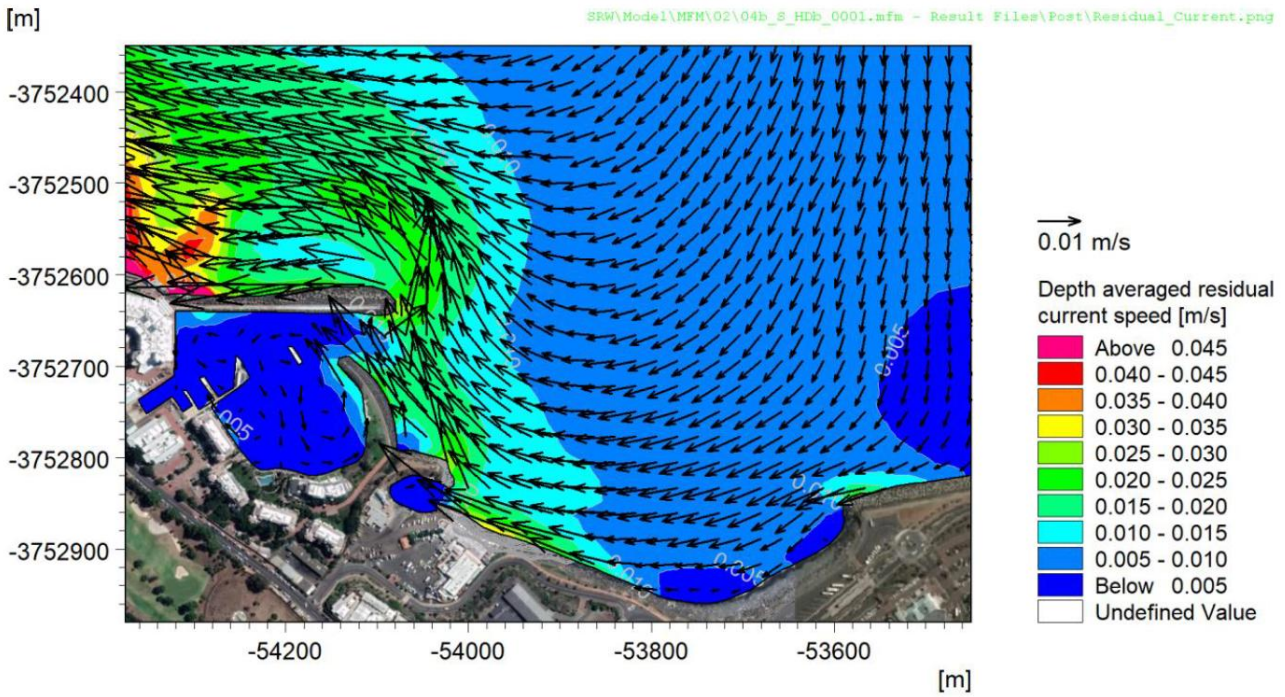


Figure 2-14: Depth-averaged residual currents for the baseline for the summer/autumn case.

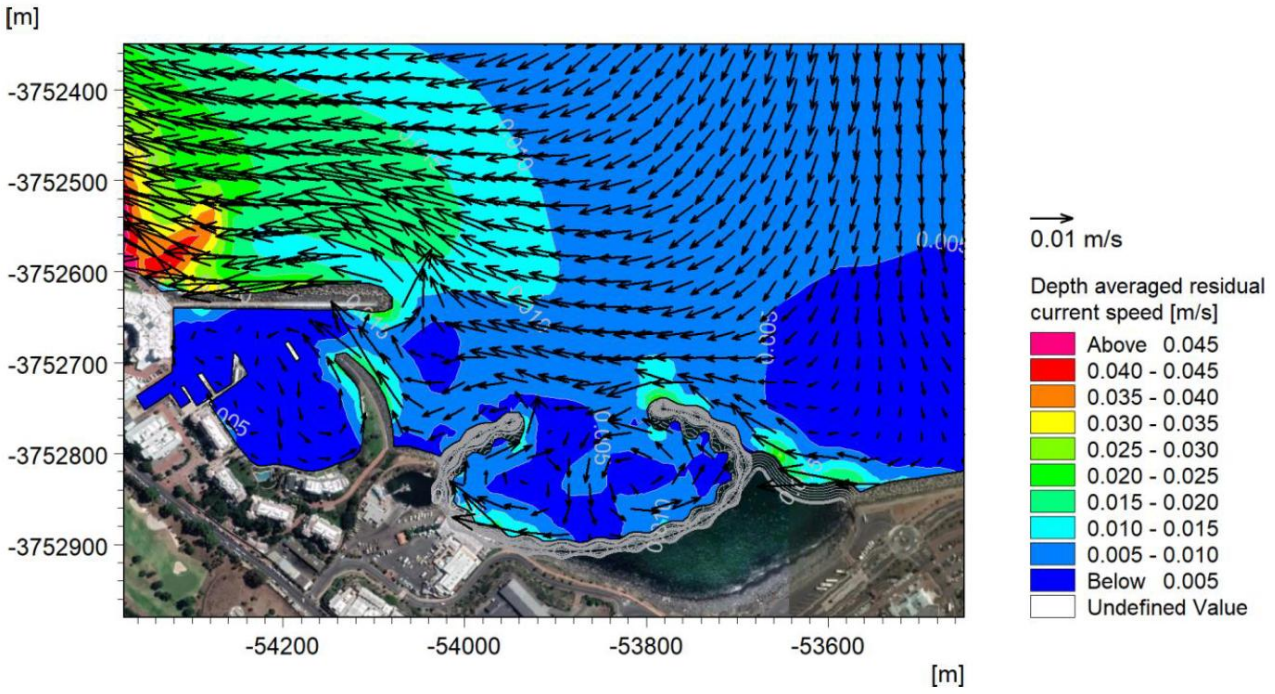


Figure 2-15: Depth-averaged residual currents for the development layout for the summer/autumn case.

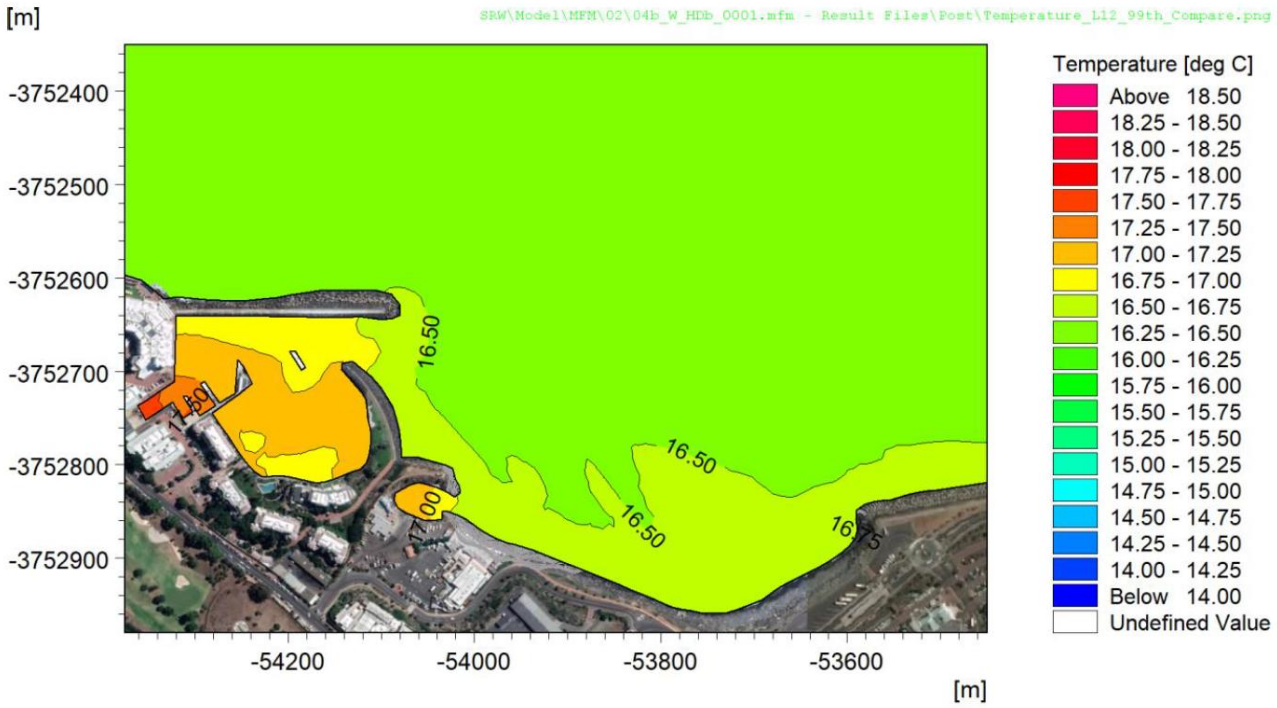


Figure 2-16: Maximum (99th percentile) surface seawater temperature for the baseline for the winter/spring case.

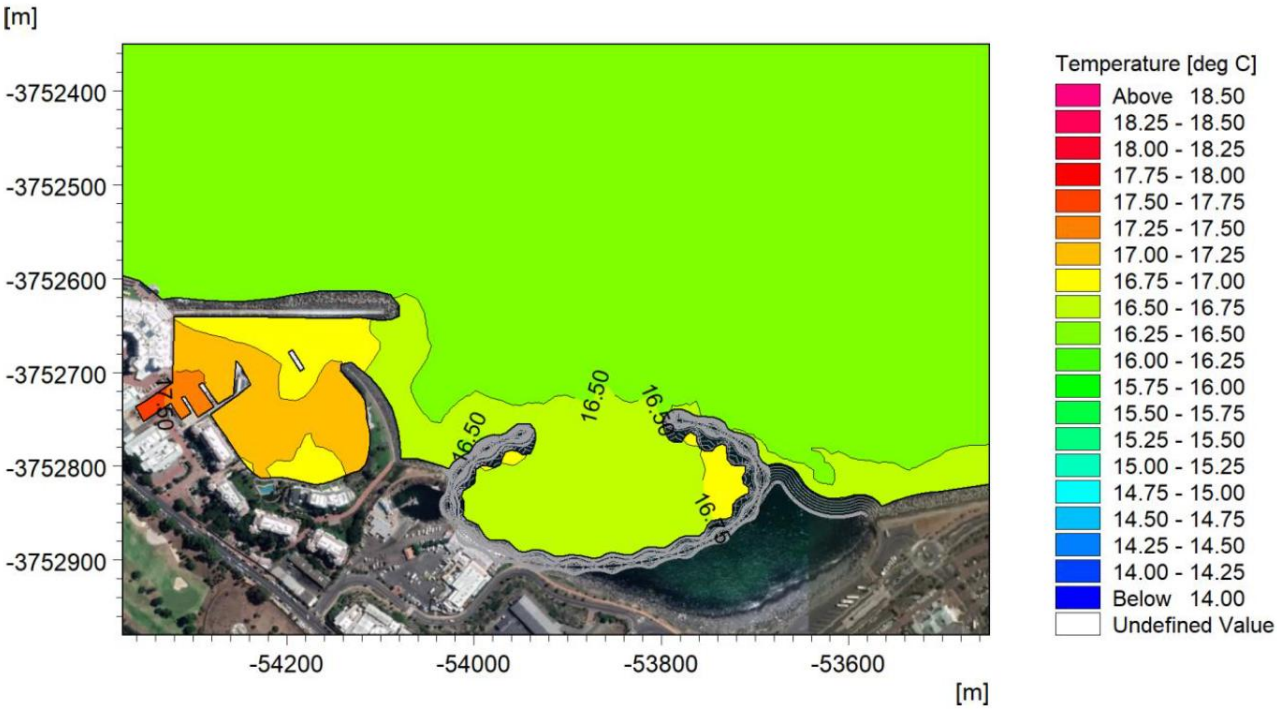


Figure 2-17: Maximum (99th percentile) surface seawater temperature for the development layouts for the winter/spring case.

2.3.4 Accumulation of sediment

Under baseline conditions, Granger Bay remains predominantly sandy because storm events generate bed shear stresses‡ above the 0.2 N/m² threshold required to resuspend fine sediments. In contrast, the Waterclub Marina generally experiences low bed shear stress and currently requires periodic maintenance dredging.

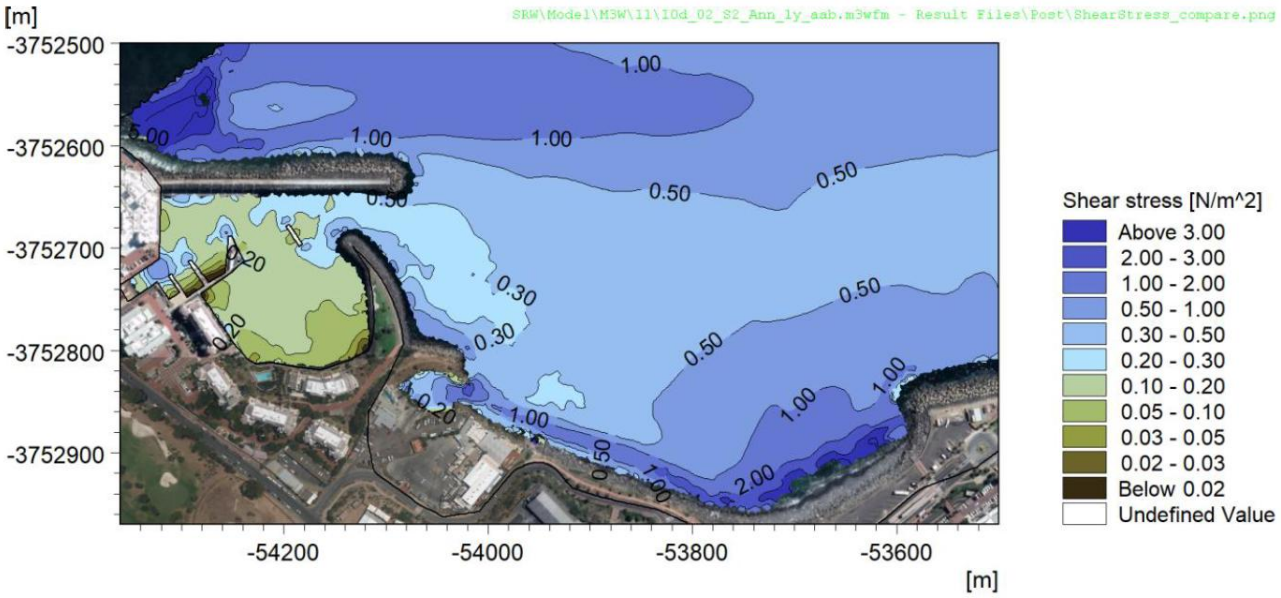


Figure 2-18: Wave-induced bed shear stress for baseline layouts for the 1-year return period storm event.

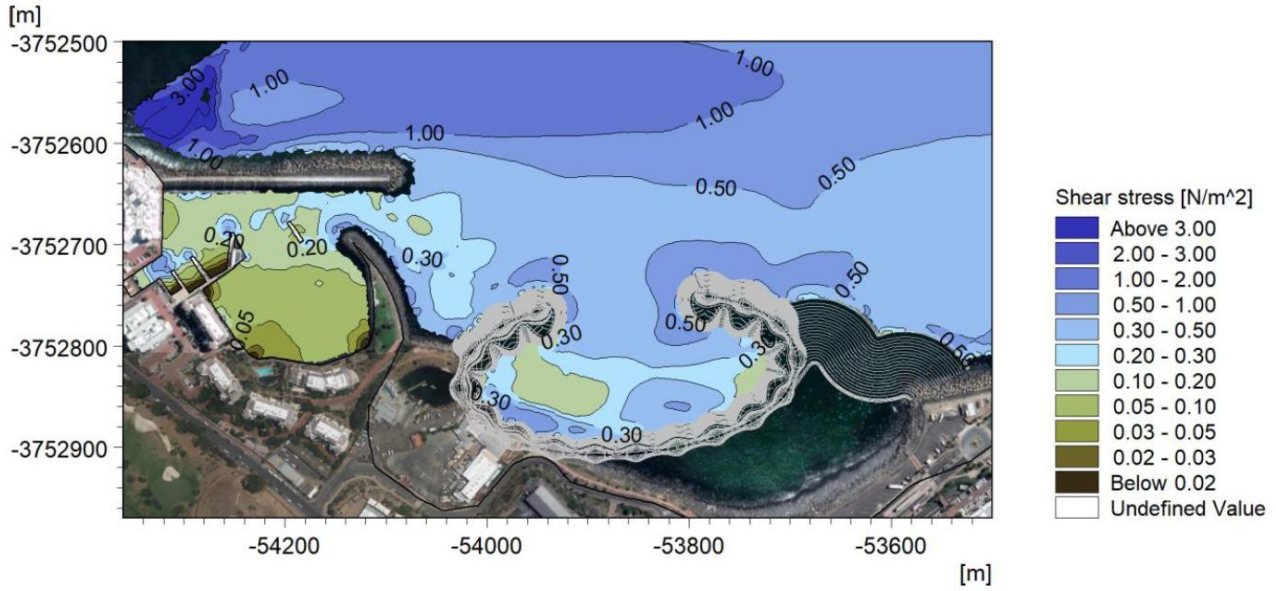


Figure 2-19: Wave-induced bed shear stress for development layouts for the 1-year return period storm event.

For the baseline case (i.e. under current conditions), longer-term mud accumulation is predicted within the entire inner area of the Waterclub, except for the entrance and some localised areas of scour induced by strong currents due to harbour resonance. This result is consistent with bathymetric surveys of the Waterclub and historical dredge records, which indicate that periodic maintenance

‡ i.e. the forces controlling sediment resuspension

dredging of the Waterclub has been required. The proposed development does not result in significant changes in mud accumulation outside the proposed bay. The development will not result in a significant impact on the bed shear stresses in the Waterclub, and no additional mud accumulation and no additional volume of maintenance dredging is predicted for the Waterclub.

Within the proposed new bay, finer sediments may accumulate on the seabed within the proposed new bay during summer, and there is some risk of longer-term mud accumulation within the proposed new bay. *It is stipulated in the EMPr that siltation within the new bay be monitored, and dredging be implemented if required.*

2.3.5 Wave Heights

The development generally reduces significant wave heights within the bay due to increased sheltering. However, local amplification occurs in the centre of the new bay as a result of harbour resonance.

The results show that for the 1-month summer and winter cases, as well as the 1-year return period case, there is a general reduction of 0.03 m in wave height within the Waterclub Marina with the development. Wave heights within the development remain higher than those inside the Waterclub Marina. Reflections from the eastern breakwater alter wave heights to the north-east of the development by up to approximately 0.5 m within about 300 m of the structure. Beyond approximately 500 m, no significant changes in wave climate are predicted. The significant wave height within the proposed bay will be lowest around the slipway. *It is also important to note that it is unlikely that the slipway would be in use during weather conditions that would correlate with unsafe wave conditions.*

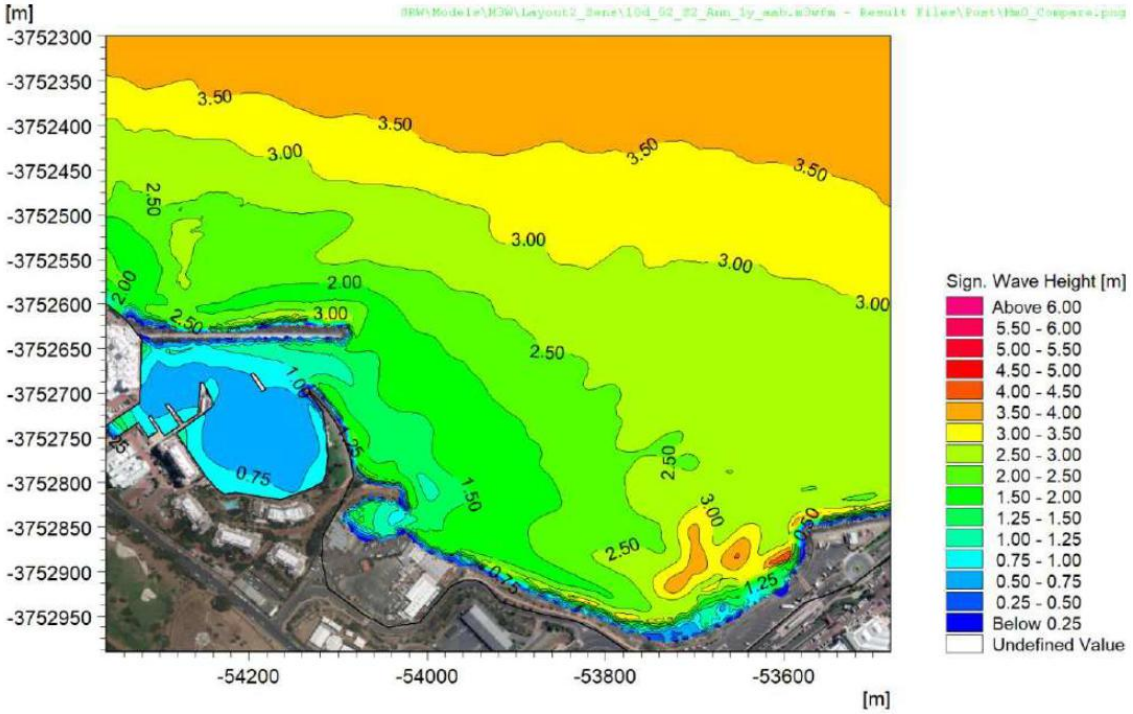


Figure 2-20: Total H_{m0} for baseline for the 1-year return period *[UPDATED]*.

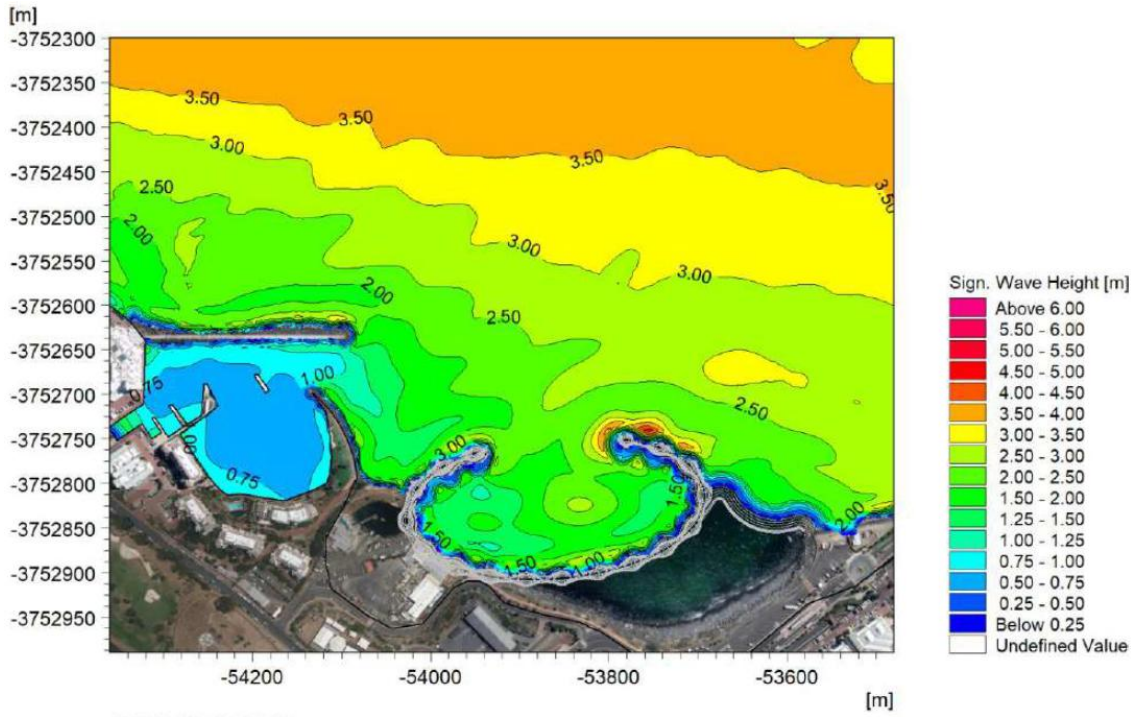


Figure 2-21: Total H_{m0} for development layouts for the 1-year return period *[UPDATED]*.

2.3.6 Climate Change Considerations

Climate change projections were a critical design informant for the proposed development. The following is a summary of the PRDW Wave Modelling Report (2025) that specifically assessed the development's performance on estimated sea level rise predictions. An assessment of climate change was conducted to determine projections for sea level rise, extreme wave heights and storm surge at Cape Town for two project dates: 2024 (end of construction) and 2074 (end of design life).

Long-term water level measurements at Cape Town were analysed to determine extreme storm surge. A calibrated MIKE 21 Spectral Waves model was used to obtain the nearshore extreme wave conditions at the -20 m MSL contour based on 42 years of storms. A joint probability assessment of the extreme waves and storm surge was conducted to determine suitable combinations of extreme waves and water levels. The MIKE 3 Wave model was used to simulate the processes of key importance, including wave diffraction, wave transmission over the breakwater, wave reflection, and wave-runup and overtopping of edge structures from the -20 m MSL contour to the site of interest. The model was qualitatively validated against observed runup during a historical storm event.

Fourteen different weather scenarios were modelled in order to provide the various required inputs into the design and the physical model. The model showed that the short waves are significantly reduced in the lee of the proposed new breakwater, while opposite the entrance between the breakwaters there is less reduction.

The design waves for the proposed breakwaters and coastal infrastructure are tabulated in Table 2-2, for return intervals of up to 475 years, sea level rise of up to 0.43 metres (projected as the 2074 scenario) and resulting waves of up to 9.03 metres. Figure 2-22 shows the resulting significant wave heights (Hm0) in m MSL at various points along the coastline.

Table 2-2. Design wave parameters

	Case	Return Period [years]		Parameters			Tide [m MSL]	Surge [m]	SLR [m]	SWL [m MSL]	Hmo
		Water level	Hm0	Hm0 [m]	Tp [s]	Dmp [deg]					
8	245-285 EVA	47.5	475	10.49	17	282.5	0.97	0.75	0.43	2.15	2.57
10	285-290 EVA	47.5	475	9.03	15	287.5	0.97	0.75	0.43	2.15	2.60
16	300-305 EVA	47.5	475	4.98	10	302.5	0.97	0.75	0.43	2.15	1.82
20	285-290 EVA	47.5	50	7.47	15	287.5	0.97	0.75	0.43	2.15	2.42
22	285-290 EVA	0.5	5	5.80	15	287.5	0.97	0.37	0.02	1.36	2.10
24	285-290 EVA	"high tide"	475	9.03	15	287.5	0.2	0	0.43	0.63	2.34

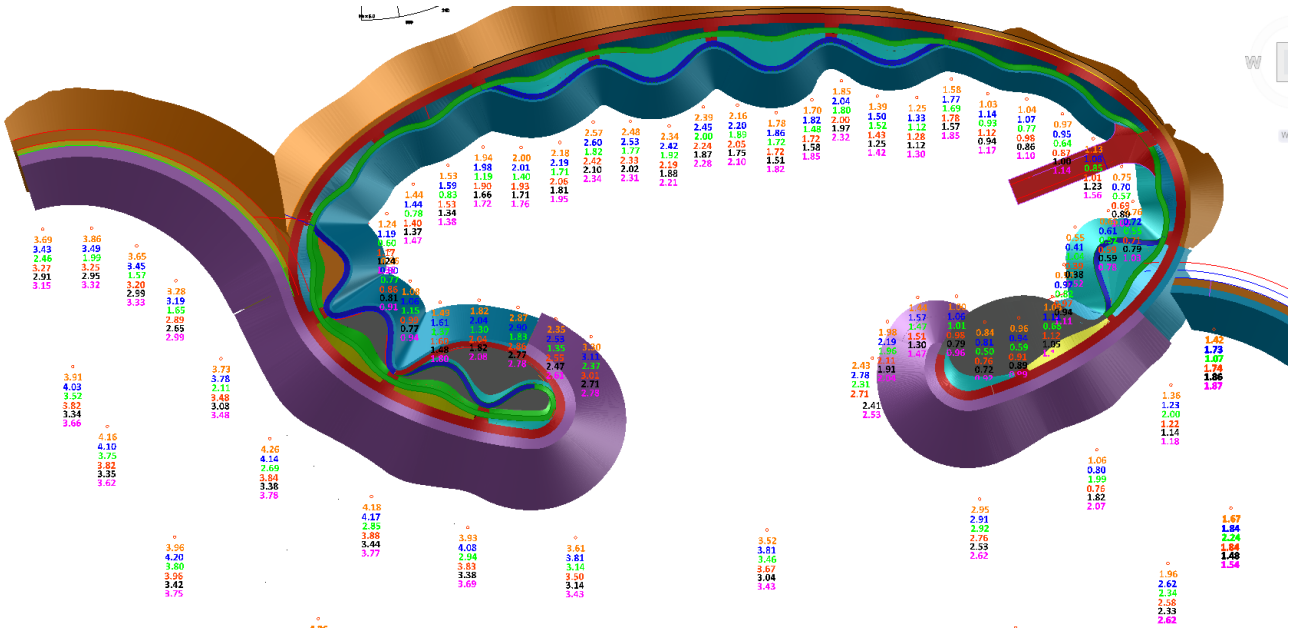


Figure 2-22. Significant wave heights (H_{m0}) under a range of design conditions

The Wave and Hydrodynamic Modelling Study (Appendix G2) was updated to include a more detailed analysis of the anticipated changes to wave dynamics within the Waterclub Marina during extreme events. *Results indicate that for the extreme design cases (475-year return period), there is a slight increase of approximately 0.12 m in total wave height within the Waterclub Marina with the addition of the proposed development (worst-case). Further analysis of the results focuses on the change in wave action affecting the inside of the existing main breakwater (straight, northernmost wall of the Waterclub Marina adjacent to the Radisson hotel) and the outside of the lee breakwater (smaller curved wall extending northwards from the existing OPBC entrance) – that is, the sides of the existing breakwaters that would experience wave reflections from the proposed development. This analysis was done by extracting the maximum significant wave height (H_{m0}) occurring anywhere along the structure toes for any of the 475-year return period cases and comparing results between the baseline and the development layouts, as well as contextualising these results with the wave direction – a key aspect in determining the actual resultant forces on the existing breakwaters.*

Results from this analysis indicate a 2% increase in wave height (2.09 m to 2.13 m) for waves perpendicular to the existing main breakwater. The 2% increase is not considered a significant enough change in the magnitude of the perpendicular waves to have any negative impact on the main breakwater. For the lee breakwater, results indicate a 17% increase in wave height (3.18 m to 3.71 m) for waves approximately parallel to the lee breakwater. Similarly, while wave heights are significantly higher along the lee breakwater, the parallel wave direction is not anticipated to have

a significant negative impact on the lee breakwater. Overall, the development is not anticipated to have a significant negative impact on the long-term stability of the existing breakwaters. However, as a precautionary measure, monitoring for the lee breakwater has been included in the EMPr for after construction of the new breakwaters.

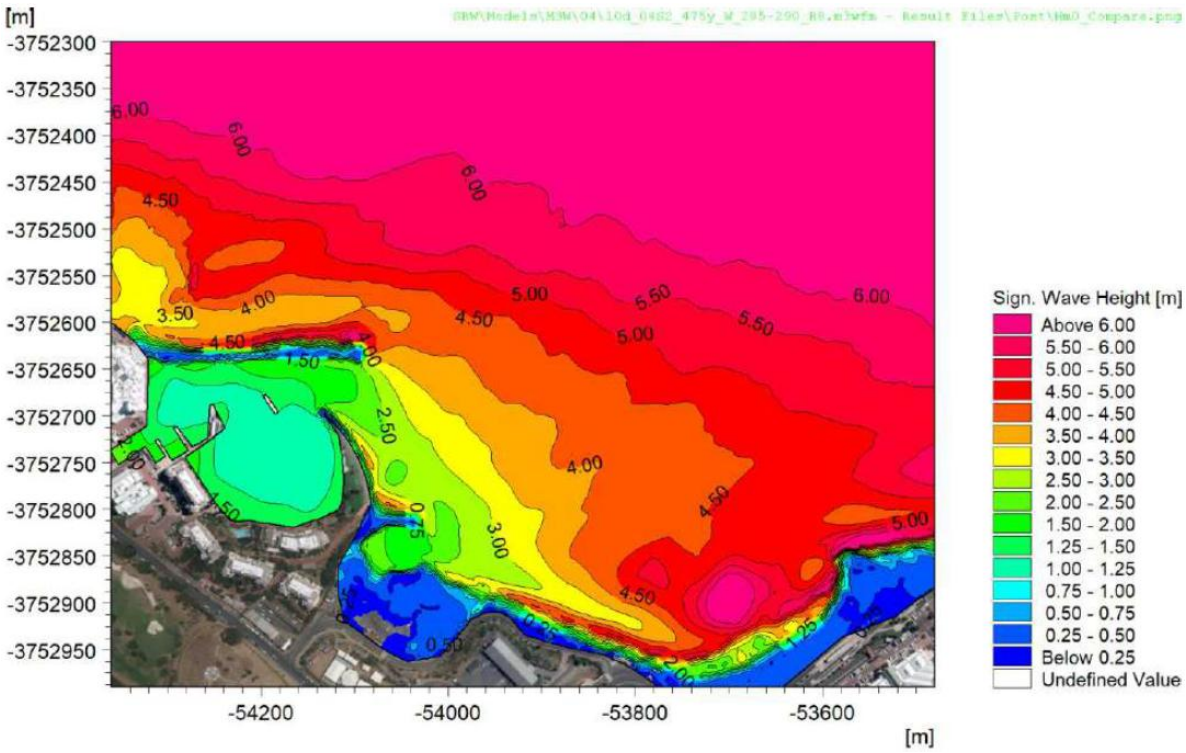


Figure 2-23: Total H_{m0} for the baseline layout for the 475-year return period from 287.5 degrees

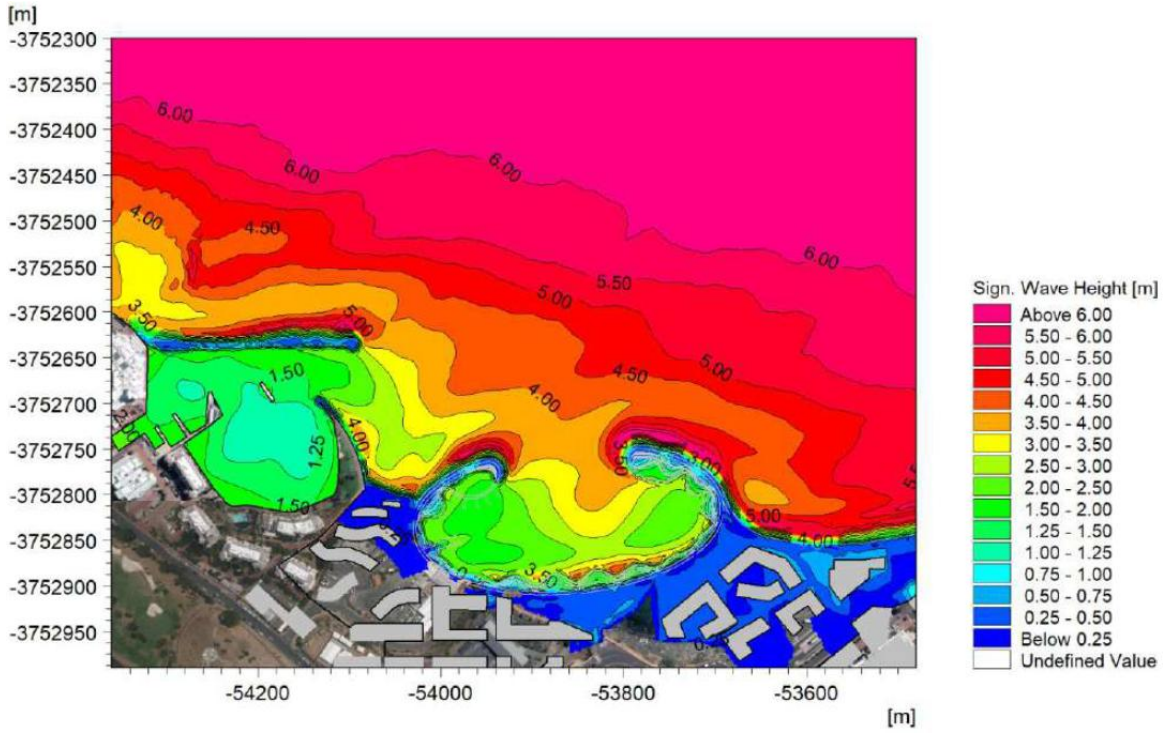


Figure 2-24: Total H_{m0} for the development layout for the 475-year return period from 287.5 degrees

2.4 Service infrastructure

The proposal is to develop 78 000m² of bulk within the V&A Waterfront's existing available bulk rights. Water and sewer reticulation networks within the V&A Waterfront are managed and maintained by the applicant, with the City of Cape Town providing connections to its bulk water and sewer networks (**Appendix H**). The anticipated services demand is calculated on the land-use mix in Table 2-3. The estimated water demand and sewer flow (Table 2-4) have been updated since the Draft Scoping Report based on comments received from the City of Cape Town, and an updated services confirmation report was requested from the City of Cape Town. Latest confirmation of service demand values is presented below.

Table 2-3: Land-use mix information used to calculate service demand

Land Use Type	Quantity	Type	Converted Quantity	Type
Residential	50 700	m² GLA	500	Units
Cultural	1 200	m² GLA	514	Persons
Hotel	11 400	m² GLA	125	Rooms
Retail / Restaurant	6 200	m² GLA	-	-
Retail / Light Industrial	8 500	m² GLA	-	-
Total	**78 000**	**m² GLA**		

The estimated demand and sewer flow for the proposed development are set out in Table 2-4 based on a water demand of **± 222 kℓ/day and a sewer flow of 95%.**

Table 2-4: Estimated water demand and sewer flow for the proposed development

Description	Quantity (Units/Area/No. people)	Potable water demand			Sewer flow	
		Annual Average Daily Demand (kℓ/d)	Peak Flow (ℓ/s) (PF=3.0)	Fire Flow (ℓ/s)	Annual Average Daily Flow (kℓ/d)	Peak Flow (ℓ/s) (Wet weather, PF=2.5)
Total	78 000 m²	**222 kℓ/d**	**7.7 ℓ/s**	15.0 ℓ/s	**211 kℓ/d**	**6.53 ℓ/s**

2.4.1 Potable Water

The City of Cape Town has confirmed (Appendix H) that the proposed development falls within the Molteno water distribution zone. It will be supplied by a 305 mmØ water main along Beach Road, which has a peak flow and velocity of 12.8 ℓ/s and 0.1 m/s, respectively. The peak and static pressure in the area range between 80-85m and 85-90m, respectively. The City's Water and Sanitation has confirmed that the water main has sufficient capacity and residual pressure to supply the proposed estimated flow from this development, and that the City of Cape Town's bulk supply system has sufficient water resources, treatment, bulk storage and conveyance capacity to supply the estimated average daily demand of **222 kℓ/d** of the proposed development

2.4.2 Wastewater

This proposed development is situated within the catchment of the Green Point Marine Outfall. The City's Water and Sanitation Department has confirmed that this outfall works has sufficient unallocated capacity to accommodate additional development.

The anticipated wastewater flow from the proposed development has been calculated to be 211 kℓ/d. Wastewater generated from the development will be discharged to the municipal sewer system (in the Green Point marine outfall catchment) in the short term, and it is anticipated that, in the longer term, it may be treated by a new wastewater treatment plant to be constructed by the V&A Waterfront. No additional sewer upgrades are expected to be required as the existing sewer conveyance network has sufficient capacity to accommodate the development (**Appendix H**).

2.4.3 Stormwater

A stormwater management plan (SWMP) has been developed for the site by Nadeson Consulting Services and is included as **Appendix J** to this EIA Report.

As the site is located within the V&A Waterfront, which will connect to private stormwater infrastructure and drain directly into the sea, the additional stormwater quantity will not have a negative impact on downstream infrastructure or river corridors. Therefore, attenuation of flood peaks is not necessarily required but rather recommended where possible. The primary focus is the management of stormwater quality through appropriate treatment and control measures in compliance with municipal requirements (the City of Cape Town's Management of Urban Stormwater Impacts Policy (C58/05/09) and By-Law relating to Stormwater Management (C35/08/05)) for a "Brownfield and Existing Site."

The approximate land use breakdowns for the existing land parcels and proposed reclaimed land are as set out in Table 2-5. The catchment currently has an impervious area of 85%.

Table 2-5. Development footprint land use breakdown for existing land area (left) and proposed reclaimed area (right).

Existing Land Area		Proposed Reclaimed Area	
Land Use	**% of Area**	**Land Use**	**% of Area**
Building	42%	Building	40%
Walkways	18%	Walkways	20%
Coastal Protection	0%	Coastal Protection	21%
Roads	25%	Roads	0%
Landscaping/Open Space	15%	Landscaping/Open Space	19%
Total	**100%**	**Total**	**100%**

The existing Granger Bay stormwater system discharges directly to the Atlantic Ocean through three separate outfalls (Outfall A to C). All three outfalls fall within the V&A Waterfront site boundary and are indicated in **Figure 2-25**. In general, the stormwater network serves the full extent of the site, as well as an upstream catchment outside the V&A Waterfront that ties into the system and drains towards Outfall A. Outfall A is a 1.5m diameter outfall receiving flows from a large portion of the existing V&A Waterfront to the west and south of the Victoria Wharf shopping centre and the existing Granger Bay area. It also receives flows from offsite around Portswood Road, Beach Rd, Breakwater Blvd and Somerset Hospital. Outfall B is a 0.75m diameter outfall that currently receives flows from East Pier Road, the existing Table Bay Hotel car park (currently being developed for basement parking and future buildings) and a portion of Breakwater Blvd. The existing Outfall C (diameter not known) collects stormwater from Haul Rd, Beach Rd, the parking area outside of the Grand Africa Café, the old Oranjezicht Market and the existing Oceana Power Boat Club (OPBC).

The EPA SWMM hydrological method was used to determine the drainage area runoff for the proposed development area. Storm intensities for a 24-hour period were determined for return

periods of 2, 5, 10, 20, 50 and 100 years. The storm intensities incorporate a 15% climate change factor.

For runoff management, an underground stormwater system that can adequately accommodate the flows generated by a minor storm (1:5 year storm event) and an overland free-draining system that can accommodate a 1:50 year storm event are required.

In accordance with the Urban Stormwater Impacts Policy the design storm event for quality treatment is a ½ year rainfall interval over a 24-hour period. This equates to an 18.5mm rain event. Targets set in the policy for the reduction of post development pollutant concentrations are that total suspended solids should be reduced by 80% and total phosphorus by 45%, for this rainfall event.

The proposed stormwater management on the site will be via underground stormwater networks draining to stormwater outfalls that discharge stormwater into the ocean (Figure 2-26). These outfalls would be extensions or diversions of the existing outfalls, and would not add new discharges to the coastal environment.

To mitigate the backwater effect of high-tide flooding or storm surge-related backflow into the stormwater outfalls, as well as the blocking of outfalls with marine-derived gravels and sand, it is proposed that a non-return flap valve be installed approximately 25m inland from each outfall. It is further proposed that each outfall have two pipes installed from the flap manhole to the outfall, with the second pipe at a higher level to accommodate discharges if the lower pipe becomes blocked. The indicative flap valve and overflow pipe are shown in Figure 2-27 and Figure 2-28 respectively.

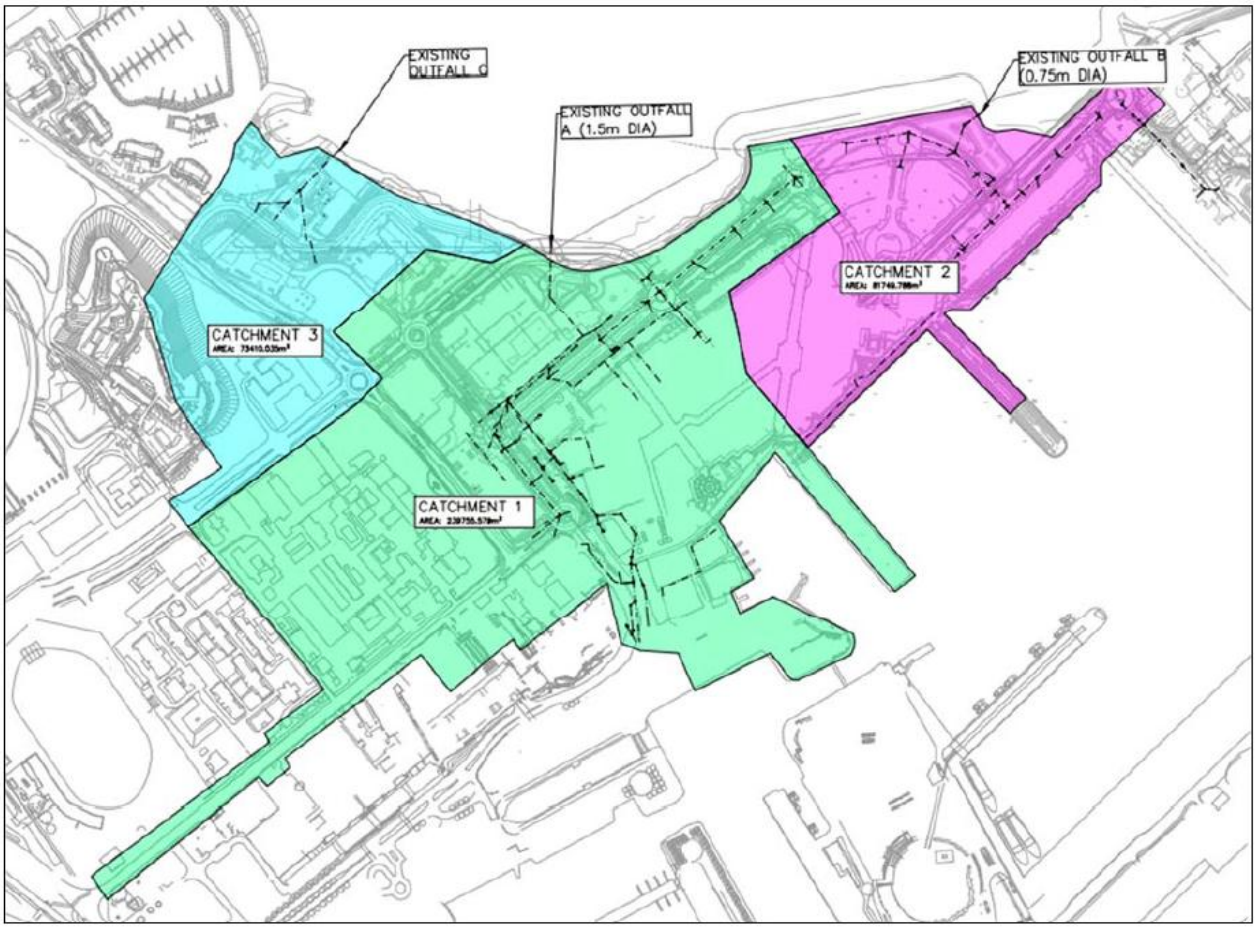


Figure 2-25. Existing stormwater network (black dashes) showing the current catchments and existing stormwater outfalls

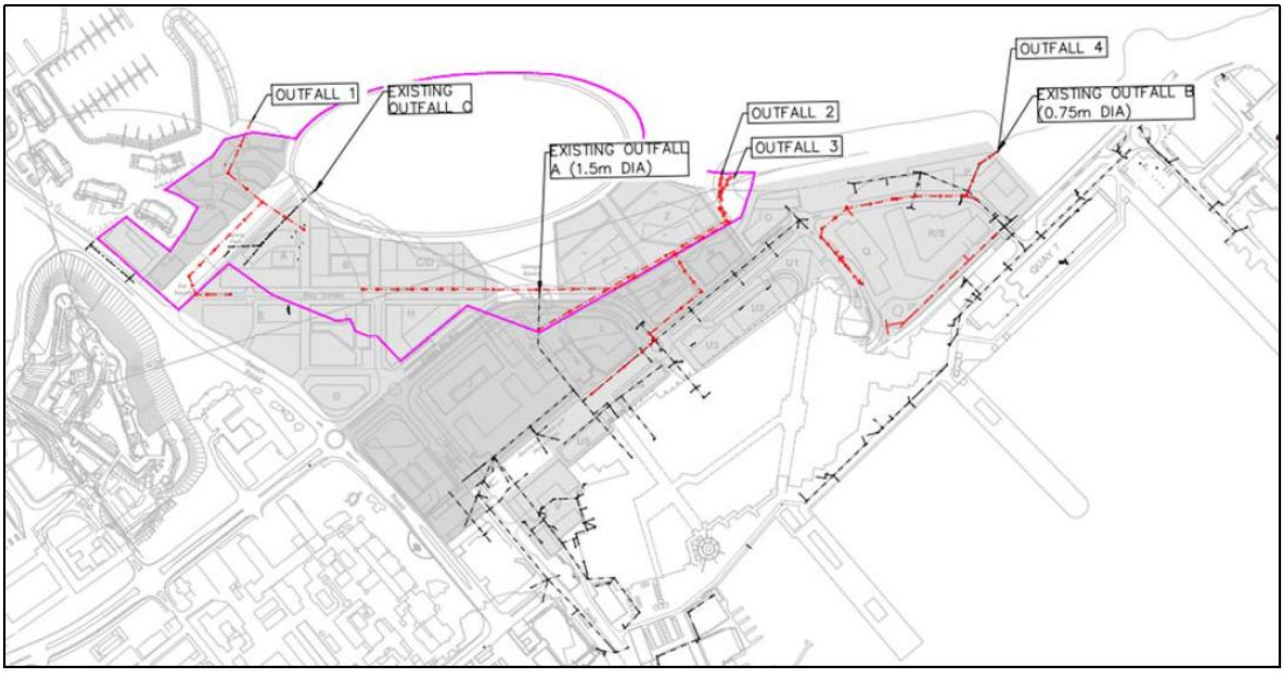


Figure 2-26. Proposed stormwater system showing the diversions or extensions of existing coastal outfalls



Figure 2-27. Proposed stormwater flap valve example

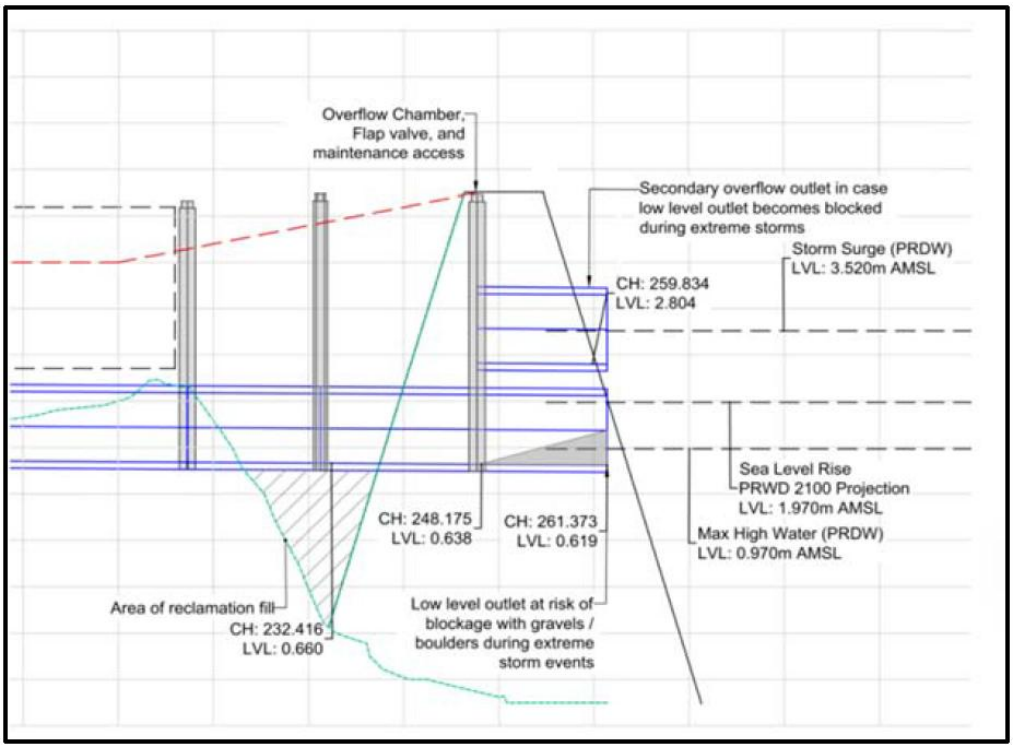


Figure 2-28. Proposed secondary overflow outlet arrangement

As apparent from Table 2-6, total post-development peak flows in a 5-year return interval storm are expected to be approximately 5% higher than present-day flows, reducing to approximately 1.5% higher in a 100-year return interval storm.

Table 2-6. Pre- and post-development flow calculations

Storm Event (24 hr duration)	Pre-Development Peak Flow (m^3/s)	Post-Development Peak Flow (m^3/s)
5 Year Return Interval	2.55	2.673
10 Year Return Interval	3.164	3.254
50 Year Return Interval	4.785	4.900
100 Year Return Interval	5.58	5.667

The following water quality amelioration systems are proposed for this development:

- **Grassed swales and landscaped areas**: a planting strip along all major roads to catch stormwater from walkways and infiltrate it to subsoil drains;
- **Oil separators** installed at above-ground parking areas, delivery yards, and slipway parking to capture oils caught in stormwater runoff;
- **Silt traps** within manholes and catchpits

- **Litter traps** at catchpit entrances, constituting a metal grating to catch litter and other larger debris before it enters the catchpit structure – these would be installed both within and upcatchment from the development.
- **Granger Walk landscaped feature**: The proposed Granger Walk park incorporates a landscaped areas, walkways and water storage areas, which connects to the new coastal protection area. The final levels and design are not yet confirmed, but the general principle is indicated in Figure 2-29.

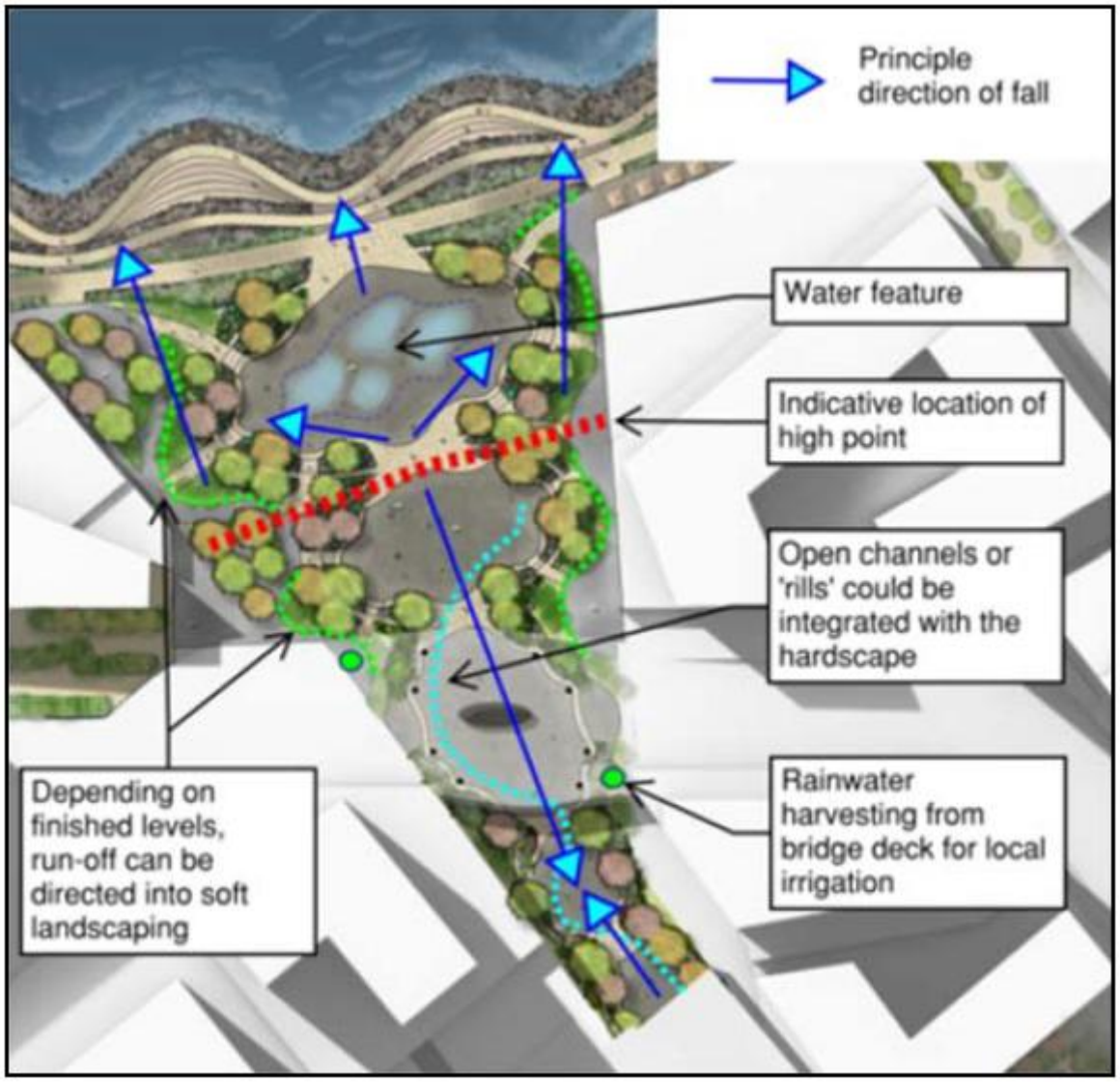


Figure 2-29. Proposed Granger Walk park with relevant stormwater management features

2.4.4 Electrical

A full new electrical distribution network is planned for the site. The design of this proposed new infrastructure has been carried out based on preliminary discussions held with the CoCT. The City's Electricity Generation and Distribution Department has confirmed that there is sufficient spare capacity for the proposed development. The existing 11kV infrastructure will need to be augmented, including substations and points of metering. Any upgrades required for the electrical infrastructure will be done at the applicant's cost (see **Appendix H** for the City's full comment).

2.4.5 Solid waste

The V&A's solid waste handling centre has existing capacity to manage the proposed waste generated from the proposed developments (**Appendix I**).

2.4.6 Energy and water saving considerations

A key consideration for the future detailed design of the development will be to minimise the consumption of constrained services such as water and electricity. The detailed design of these aspects is beyond the scope of the current level of assessment.

At minimum, the development will be designed to comply with South African National Standard (SANS) 10400–XA 2021 ed.2, or any updated version thereof, that amongst other requirements specifies:

- Mandatory performance requirements for energy demand reduction;
- Promotion of the use of energy-efficient lighting systems, including the exclusion of incandescent globes that do not meet performance thresholds and encouragement of low energy lighting such as LED as well as lighting controls such as occupancy sensors;
- Requirements for walls, roofs, glazing and insulation that indirectly reduce energy consumption and associated emissions;
- Promotion of the use of renewable and low carbon energy technologies including a requirement that a minimum percentage of a building's hot water demand be met through renewable or alternative energy sources
- Water-saving devices and technologies such as dual flush toilets, low-flow shower heads and taps, are already standard practice in the V&A Waterfront and will be implemented in the proposed development.

2.5 Access and transport

2.5.1 Vehicular access

Marine Construction Phase

In response to comments received during the EIA commenting period, more detailed analysis has been conducted on the location of the rock placement activities within the site boundary required for the reclamation – specifically the location of these rock placement sites relative to neighbouring residential areas, as well as the sizing limitations for the heavy-vehicles required to transport the quarry material to the site.

Internal haul routing and offloading at the rock placement areas have been reviewed at a concept level using vehicle swept-path simulations superimposed onto aerial imagery by the traffic engineers. Three anticipated offloading positions were tested. The area closest to the adjacent residential boundary is spatially constrained and is therefore expected to require the use of a smaller rigid tipper, approximately 8.5m in length, rather than a 22m articulated side tipper. While several manoeuvres may be required near this tipping location, these can be accommodated with the smaller vehicle and would be managed through a Traffic Management Plan (TMP), to be determined in conjunction with the City prior to construction. The other two rock placement areas can accommodate articulated side tippers, based on a conservative 22m vehicle with left-side offloading. At these locations, vehicles can offload and continue in a forward direction before returning to the external haul route via Granger Bay Boulevard. This reduces the need for reversing and extended on-site manoeuvring (see Figure 2-31, Figure 2-32 and Figure 2-33). This information was adapted from the updated TIA (Appendix B9).



Figure 2-30: Conceptual rock placement access points within the site boundary for the marine construction [new figure]

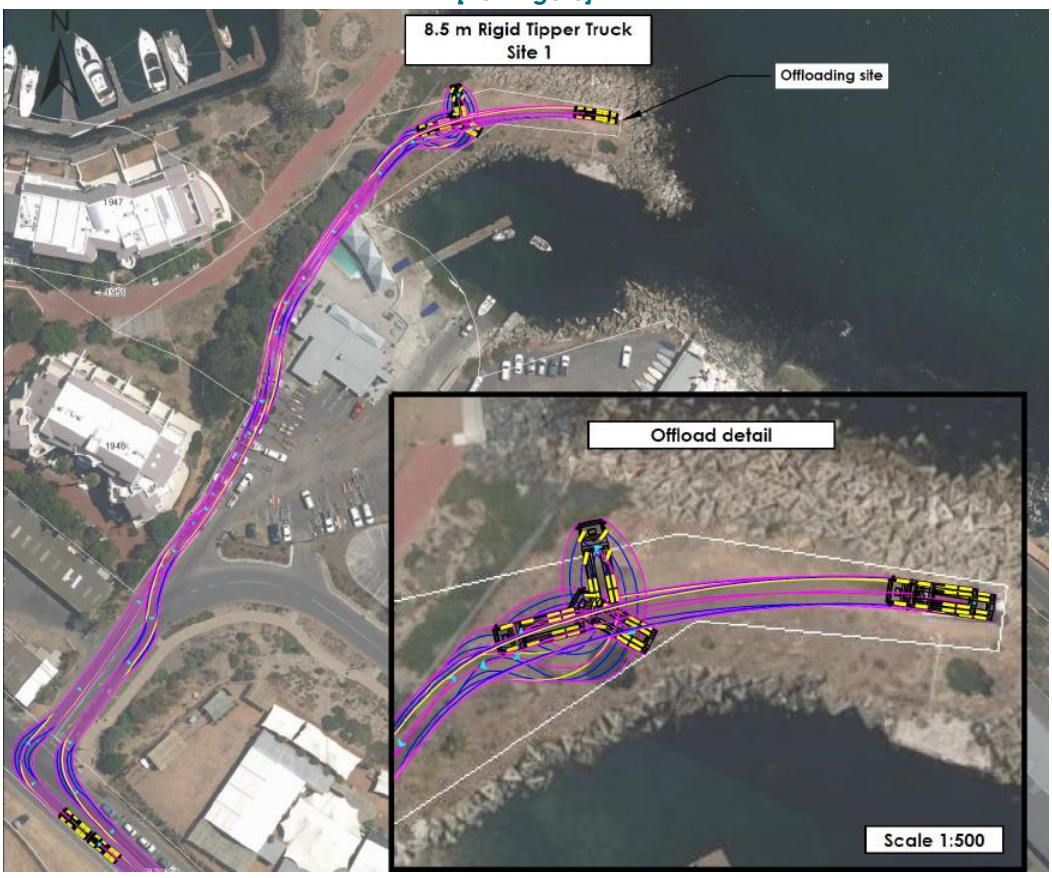


Figure 2-31: Site 1 offloading haul route (conceptual) [new figure]

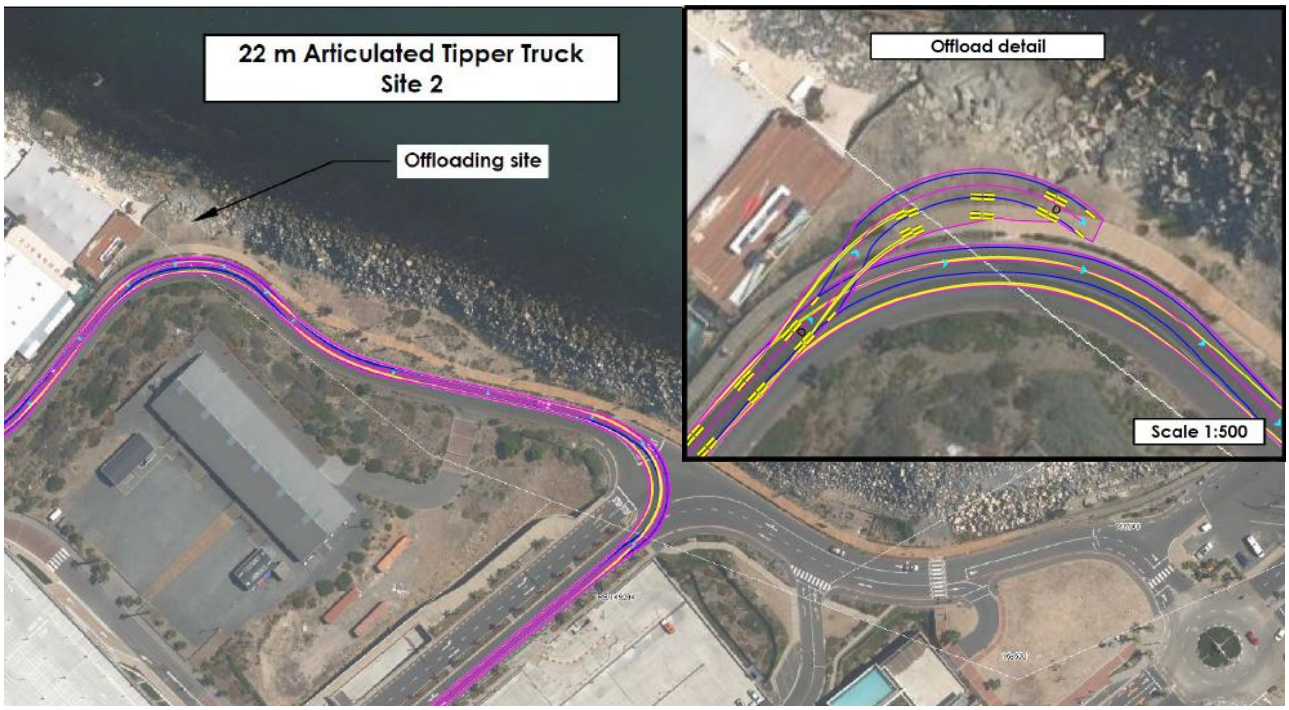


Figure 2-32: Site 2 offloading haul route (conceptual) [new figure]

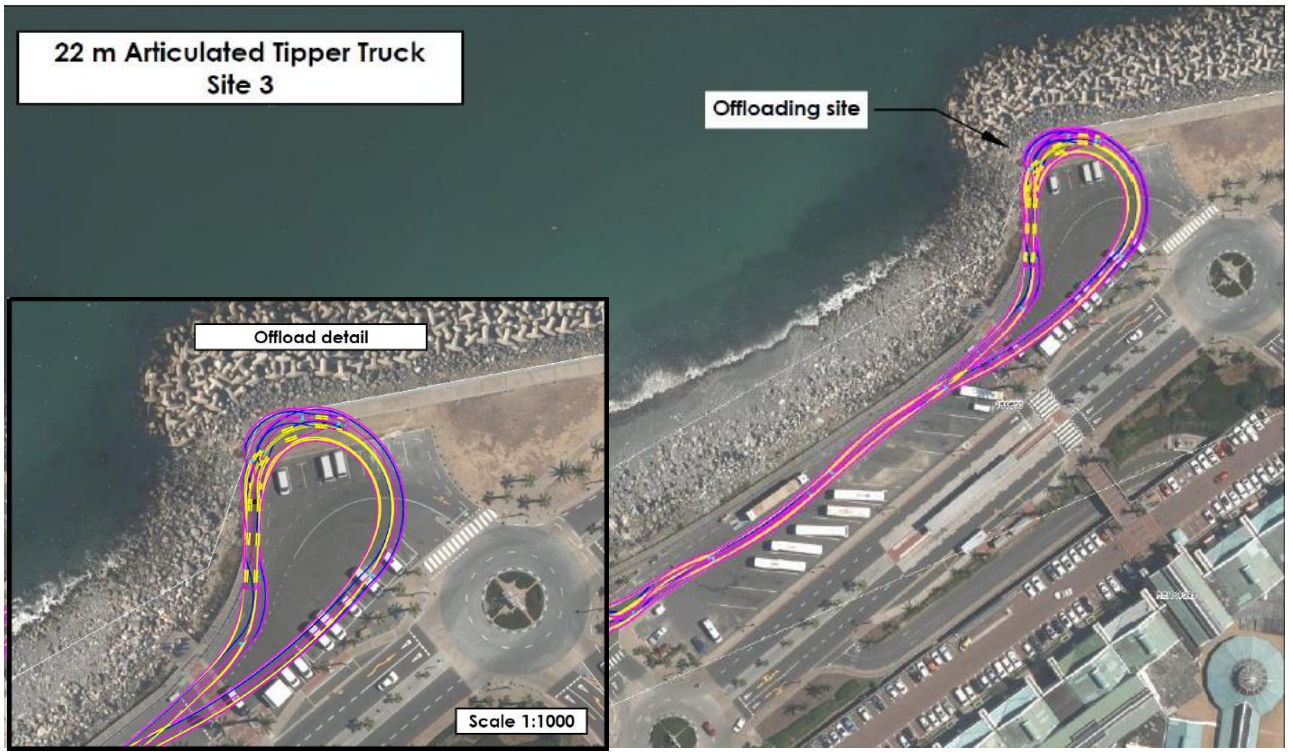


Figure 2-33: Site 3 offloading haul route (conceptual) [new figure]

Construction activities, including rock placement activities and movement of heavy vehicles, as well as associated equipment, machinery and activities, have been considered in the Construction Noise Impact Assessment (Appendix B10). It is noted that the current slipway must remain functional during the construction phase and this will be a key requirement in the TMP.

Operational Phase

The Granger Bay Precinct is accessible via a network of primary and secondary roads that serve both development parcels and broader V&A Waterfront circulation. According to the TIA (Motion Consulting Engineers, 2026) the primary access points to the precinct are:

- **Access Point 1**: Off Beach Road (Class 4)
- **Access Point 2**: Granger Bay Boulevard roundabout
- **Access Point 3**: Primary Granger Bay Boulevard ingress

In addition, several minor internal access points will serve individual land parcels via Haul Road and newly realigned internal roads, all classified as Class 5 roads.

The proposed access locations, including the three main access points and minor internal driveways, are considered compliant with the *City of Cape Town Access Management Guidelines (AMG, 2020)* based on current functional classifications. No adverse traffic impacts are anticipated with respect to spacing adequacy or intersection performance. Both Beach Road and Granger Bay Boulevard are suitably classified to support the proposed land use intensity, while internal roads are sufficiently equipped to manage lower-volume parcel access.

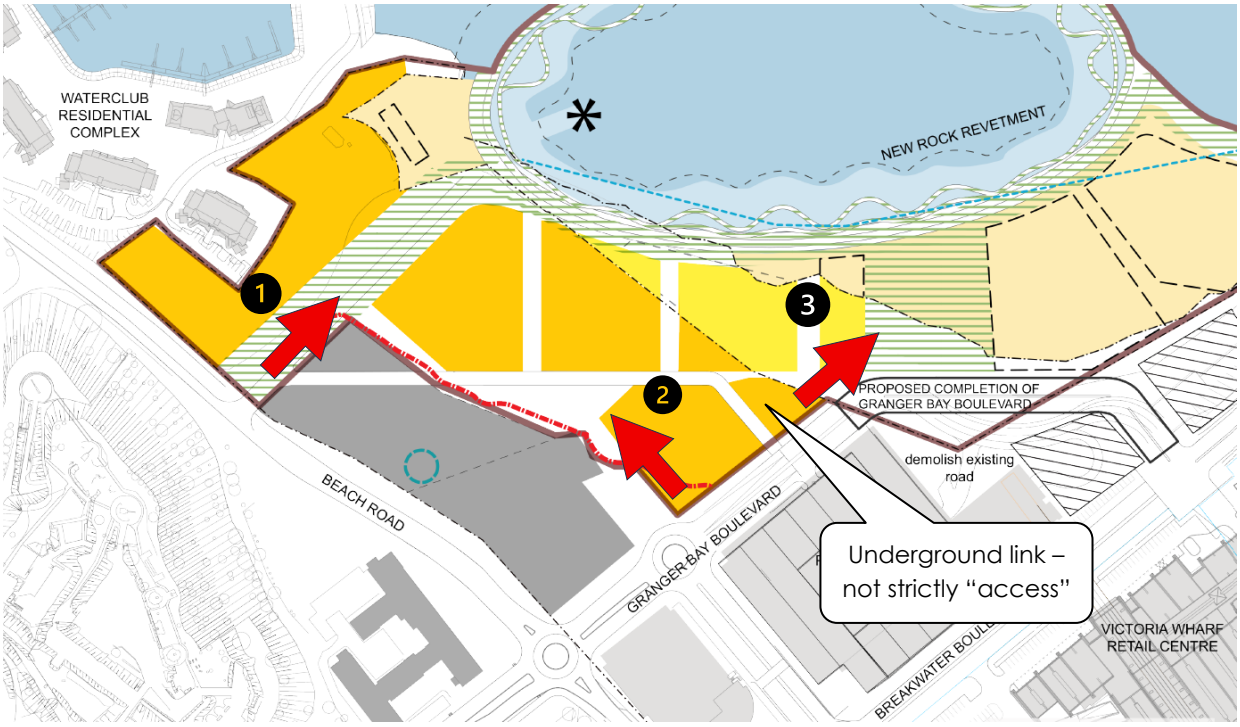


Figure 2-34. Access points

There will be no access control measures (e.g., boom gates) along external public roads, thereby allowing for uninterrupted flow into and out of the precinct. Instead, access control will be applied at the entrances to individual buildings, structured parking garages, and the slipway area, where relevant. Transport related impacts are assessed in Section 6.3.16 and Section 6.4.10.

The current proposal is understood to fall within the development rights already approved under the V&A Waterfront's existing planning framework. In terms of the recent rezoning approval, the additional 440 000 m² of development rights may only be utilised once the existing approved bulk has been fully utilised. The transport-related conditions associated with the rezoning approval will

become applicable only after the remaining approved bulk is utilized. Should any other projects within the broader V&A take up the available bulk before the Granger Bay precinct is constructed, these conditions may become applicable.

2.6 Other Applications in the Area

A Basic Assessment is currently being drafted by a separate EAP for the same applicant for neighbouring land portions 158570 RE, 149294 RE, 177854 and 179076. The position of this project relative to the reclamation site is shown in Figure 2-35. It comprises four development parcels labelled O, P, a1 and a2, making up Phase 1B of the ongoing development within the V&A Waterfront Precinct (Figure 2-36). The information in this section forms a summary of this EAP's understanding of the project compiled from extracts of draft specialist reports provided by the applicant.

Information on Phase 1B is included in this report to allow for a thorough investigation of the potential cumulative impacts anticipated from the combination of the proposed Granger Bay precinct development and reclamation project, as well as the Phase 1B development that is likely to occur "in the reasonably foreseeable future" as contemplated in the NEMA EIA Regulations of 2014 (as amended). These cumulative impacts for Phase 1B specifically are discussed in more detail in Chapter 6.

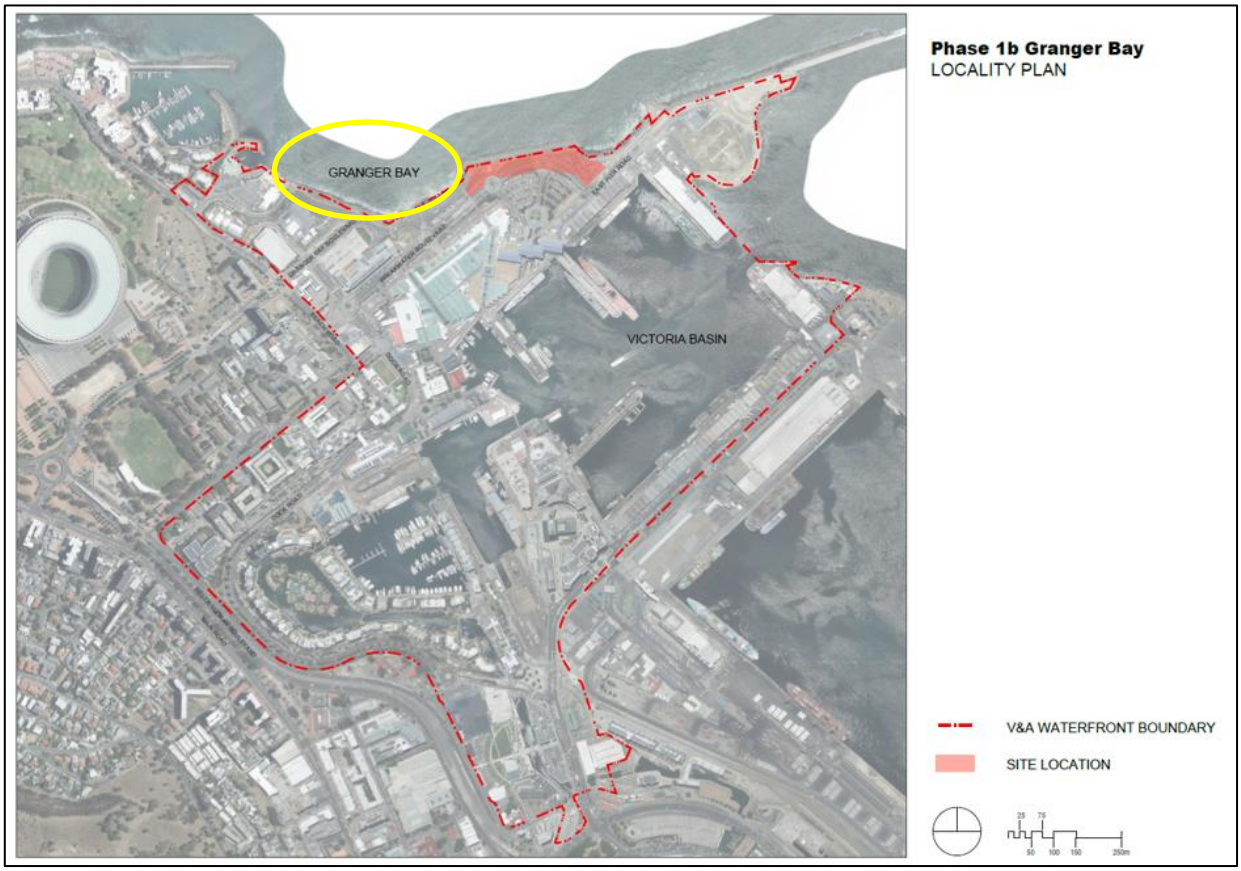


Figure 2-35: Locality Plan (V&AW, 2026). Yellow circle indicates the proposed reclamation site.

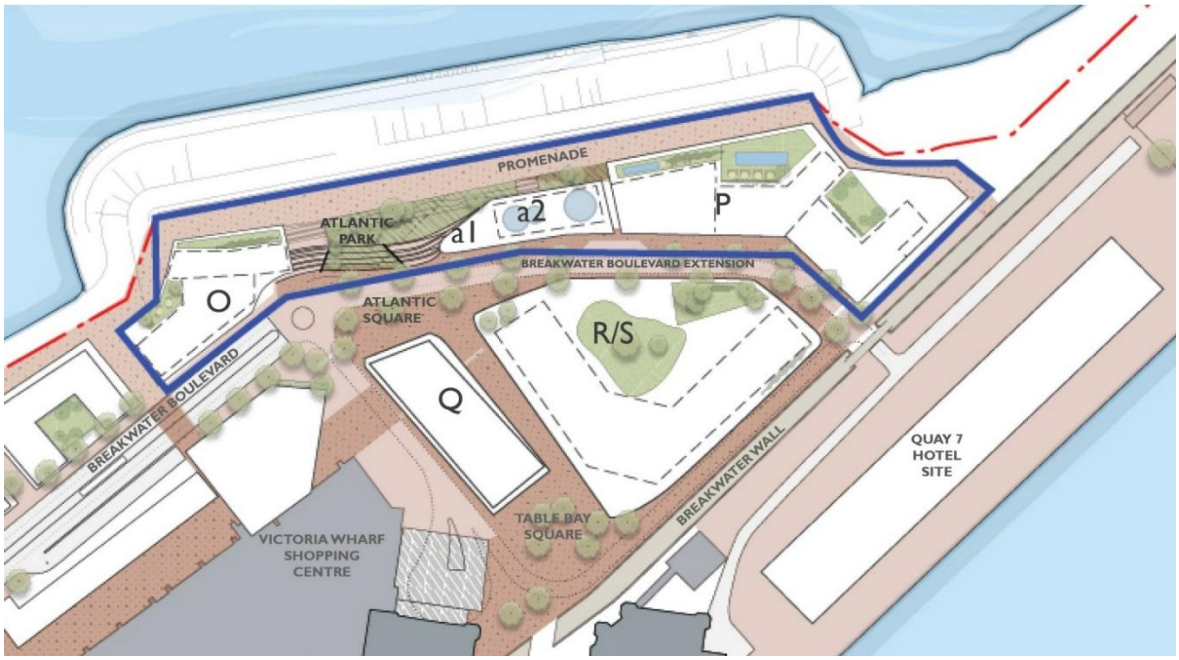


Figure 2-36: Development parcels for Phase 1B (V&AW, 2026)

The project involves the proposed redevelopment of the site into a mixed-use precinct inclusive of new public open space, which is proposed to include Atlantic Park and an extension of the existing promenade. The proposal also includes all associated infrastructure and structures connecting these components. The development will have a total development footprint of approximately 12,700 m².



Figure 2-37: Indicative massing of the Phase 1B proposal (V&AW, 2026)

2.7 Alternatives

What are alternatives?
An alternative is defined as one of the two or more ways of achieving the same desired end or goal. The EIA Regulations, 2014 (GNR 982 of 2014 (as amended)) define "alternatives" as "different means of meeting the general purpose and requirements of the activity, which may include alternatives to the:

- Property on which or location where the activity is proposed to be undertaken;
- Type of activity to be undertaken;
- Design or layout of the activity;
- Technology to be used in the activity or operational aspects of the activity;
- **Location of the activity within the approved site;** and
- Includes the option of not implementing the activity.

In terms of the National Environmental Management Act (NEMA), Environmental Impact Assessment (EIA) Regulations, the applicant is required to demonstrate that reasonable alternatives have been described and investigated in detail. Appendix 3 of the amended EIA Regulations provides the following objectives of the EIA process in relation to alternatives:

- To identify and confirm the development footprint within the approved site through an impact and risk assessment process, inclusive of cumulative impacts and a ranking process of all the identified alternatives, focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment.
- To identify and confirm the most ideal location for activity within the development footprint of the approved site as contemplated in the accepted Scoping Report.

Therefore, the EIA Report is required to provide a full description of the processes followed to reach the proposed preferred development footprint and activity location **within the approved site/property as indicated in the accepted Final Scoping Report.**

Section 24(4)(b)(i) and 24 (4a) of NEMA require an EIA to include an investigation and assessment of impacts associated with alternatives of the proposed project. In addition, Section 24O (1)(b)(iv) also requires that the Competent Authority, when considering an application for Environmental Authorisation (EA), takes into account "where appropriate, any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment". Therefore, at a minimum, the assessment of alternatives should include the no-go scenario and the maximum development scenario.

2.7.1 Site description and background

The site is owned and managed by the Victoria & Alfred Waterfront Company and is located within the City of Cape Town in a popular tourist area, the Granger Bay Precinct. The site description and receiving environment are described in Chapter 3 of this report.

In the late 1980s, it was determined that parts of the docklands in what is now the V&A Waterfront were no longer essential for industrial harbour activities or cargo transit. This led to an agreement between Transnet and the City of Cape Town to allocate redevelopment rights for the V&A

Waterfront, recognising that the V&A Waterfront property would be developed over an extended period and would depend on market demand. The proposal for the construction of a deep breakwater and associated recreational reclamation area in the Granger Bay area has been part of the V&A Waterfront's concept design planning since 1998 and was also shown in plans prepared by Sea Fisheries in the 1980s.

Key factors considered by the applicant in their selection of the Granger Bay Precinct site included:

- The potential to provide improved coastal amenities to the public on vacant and underutilised land,
- Location in relation to the CBD and access to major roadways,
- Insufficient shoreline protection from the existing embankments and eroding gravel beach,
- The completion of the V&A Waterfront precincts and demand for land in the surrounding area,
- Spatial planning compatibility and socio-economic potential, and
- The availability and feasibility of bulk services.

No site alternatives will be further considered in this Scoping and EIA process, as the proposal stems from a long-established plan to develop the Granger Bay precinct as a primarily residential area, and to stabilise the coastline. Therefore, no other site alternative is relevant to the project. Additionally, this section of the V&A Waterfront's coastline is the only area that does not have a permanently engineered edge. The Final Scoping Report acceptance received from DEADP on 02 March 2026 (Appendix E), confirms that the site/property selection has been approved as contemplated in the EIA Regulations, 2014.

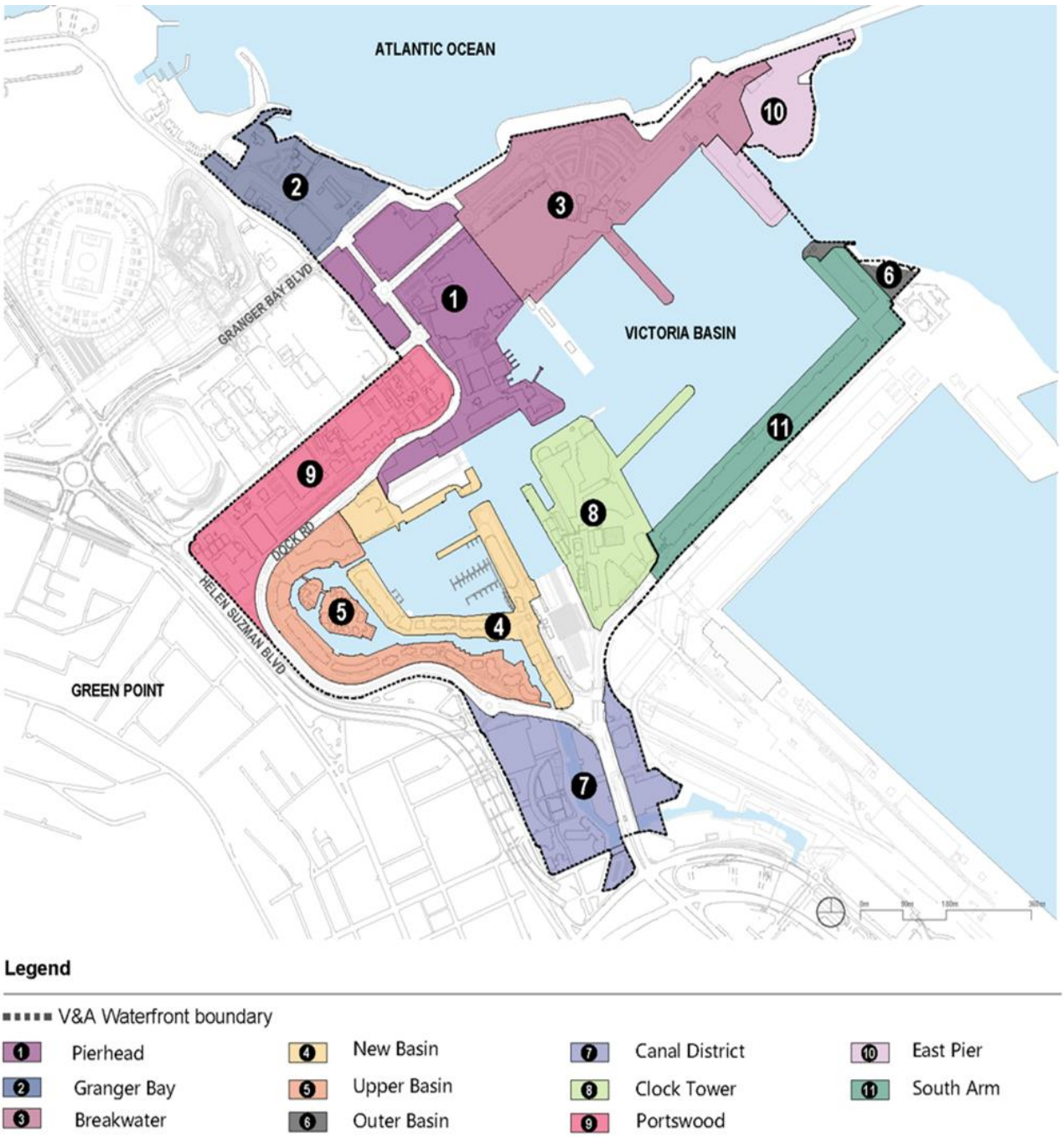


Figure 2-38: V&A Waterfront Precincts

2.7.2 Land Use Alternatives

No land use alternatives are being considered in this Scoping and EIA process as the appropriateness of the proposed land use is framed in terms of the allocated development rights for the entire V&A Waterfront. This proposal will utilise 78 000m² of the existing V&A Waterfront bulk rights. An appropriate mix of land uses within the precinct will be facilitated by a more detailed level of planning and design following this EIA process.

2.7.3 Design/Development Footprint Alternatives

Straight-Line Revetment (2018 Scheme Previously Authorised; Not Assessed)

The straight-line revetment as proposed in the 2018 Scheme included land reclamation with public spaces, and development of building packages only on existing land. The dominant land use proposed in the 2018 Scheme largely reflected residential development with a variety of accommodation types, including hotels, serviced apartments, and private apartments. Provision was made for restaurants and limited retail. An area was retained for residents of the precinct between the proposed development packages and was planned to be landscaped with pedestrian paths and outdoor seating areas. Additionally, a 30m wide pedestrian path was to provide continuous public access from Beach Road to and along the coast for over 1 km. This coastal route consisted of a paved pedestrian walkway with appropriate planting ().

A dolos revetment was planned to be extended in a straight line from the existing revetment for approximately 310m. The embankment was to be replaced with a rock revetment over approximately 160m. This coastal armouring was to be accompanied by land reclamation of around 2.4ha. This proposed coastal infrastructure aimed to provide necessary protection for existing and future development in this precinct.

The architecture of the buildings was designed to respond to the coastal setting and the desire to maximise outward views to the sea. Outdoor terraces were envisaged in these buildings. Building heights were to be in accordance with parameters established under the 2011 Heritage RoD.

This proposed layout offered significant socio-economic opportunities but also presented potential impacts on the marine environment. Despite providing protection to the shoreline, this layout had more limited opportunity for coastal access and public amenity. Therefore, it carries socio-economic opportunity costs related to:

- *Increased tourism and economic activity,*
- *Improved access to the coast,*
- *Enhanced ecotourism and wildlife-related activities,*
- *A stronger sense of place, and*
- *Greater public amenity value.*

Since 2018, the applicant has revised the original layout and undertaken detailed engineering studies to inform the development of a new layout. This updated layout is considered technically feasible and more responsive to the economic and social needs of the development. As such, the 2018 Scheme will not be subject to further assessment in this Scoping and EIA process. The approved Plan of Study culminating in this EIA included the assessment of the Preferred Alternative and No-Go Alternative.

Ellipse Design Layout (Not Assessed)

An iterative design process was followed that culminated in the preferred alternative. The initial design concept considered extending only one curved breakwater seaward. In 2022, an "ellipse" layout consisting of a new berm breakwater extending from the OPBC lee breakwater and a new revetment extending from the existing dolos revetment to the west was advanced, with the intention of reclaiming the area landward of the revetment. This design was tested through a hydrodynamic wave model study conducted by PRDW in 2022. The modelling found that for the 475-year case, the layout allowed significant overtopping which was caused in large part by the shape of the layout which amplified long waves. The recommendations of the report were to either increase the heights of the walls of the structure, or to reconsider the geometry of the layout entirely – which resulted in the preferred alternative described below.

A key design principle throughout this process has been the provision of public coastal amenities to maximise the socio-economic benefit of the currently underutilised space. The preferred layout provides more coastal amenities in the form of the eastern breakwater that connects to a continuous public coastal walkway and extends publicly accessible coastal space.

Since 2022, the applicant has refined the layout and undertaken detailed engineering studies to inform the preferred "cascade" design. The current, updated layout is considered to be technically feasible and more responsive to the economic and social needs of the development than the previous iterations. As such, previous designs are not further assessed in this Scoping and EIA process.As part of the iterative design process undertaken that culminated in the preferred alternative, a preliminary design was drafted that considered extending a curved breakwater seaward. In 2022, the ellipse layout was designed which consisted of the construction of a new berm breakwater extending off the existing OPBC lee breakwater and constructing a new revetment up to the existing dolos revetment to the west, with the intention of reclaiming the area landward of the revetment.

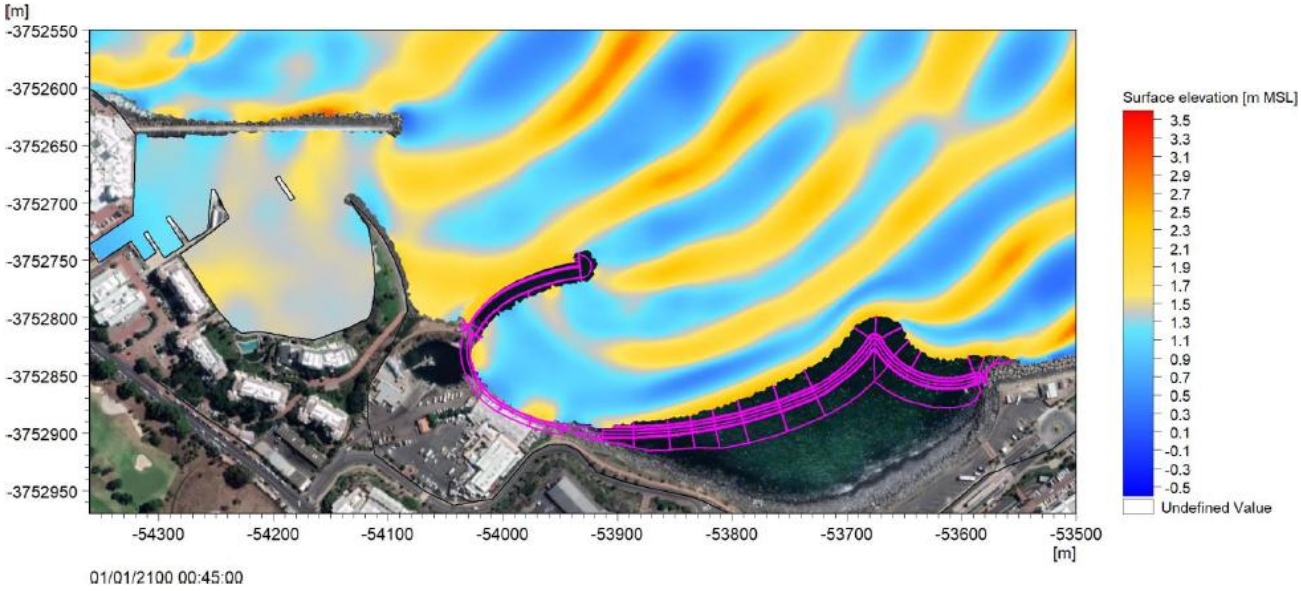


Figure 2-39: Ellipse layout (PRDW, 2022)

Cascade Design Layout (Preferred Alternative)

The preferred alternative consists of the "cascade" layout, so named due to the undulating curvature of the infrastructure, which differs from the continuous curve of the ellipse design. The layout includes two breakwaters which form a new bay. The proposed development maximises the developable area on the Granger Bay precinct site and includes land reclamation (Figure 2-42).

The intention in future planning for the Waterfront has always been to undertake development that was primarily residential in nature in the Granger Bay precinct and to stabilise the coastal edge. This part of the V&A Waterfront lends itself particularly well to the land uses proposed, and also, the coastal edge is the only remaining coastal edge within the V&A Waterfront that does not have a permanent, engineered edge. As a coastal precinct and with the potential to link the V&A Waterfront with the existing city coastal promenade, the design and implementation of a public coastal edge associated with new shore protection is a critical factor in the development of the Granger Bay precinct.

In order to preserve the sense of place of the site, the architecture of buildings will respond to the coastal setting and maximise outward views to the sea. Commercial and residential buildings will include outdoor terraces that face the ocean. On the street edge, and where more commercial buildings could be developed, a different, more urban architecture is proposed. Additionally, an exposed aggregate finish, like what is presently visible in the V&A Waterfront, will be added to the development infrastructure to ensure consistency in the V&A Waterfront and link the precincts.

Building heights will be in accordance with parameters established in terms of the 2011 Heritage RoD and 2015 VIA. Within the view arc, no buildings will be higher than 21,5 m or approximately 5 floors. Outside the view arc, towards the Beach Road/ GBB Ext. corner, building heights may be above the 5-floor level. Design parameters that emerge from the consultation underway with heritage authorities will also be considered and incorporated where relevant.

This alternative is associated with significant socio-economic opportunities, along with potential negative impacts on the marine environment, which include:

- The loss of natural rocky shore habitat footprint and loss of benthic habitat,
- Impacts on vulnerable marine species due to construction activities, increased vessel presence, and loss of habitat,
- Changes in marine system functioning due to a loss of habits, and
- Changes in local oceanography due to the breakwater and revetment construction.

Impacts are assessed in detail in this EIA Report, with mitigation measures identified where required.

No-go Alternative

In the case of the "No-Go" Alternative, the status quo will remain. The site will continue to be utilised as a parking area, and the other activities currently taking place on site, including the Grand Café & Beach restaurant, and Oceana Power Boat Club slipway, will continue to operate, subject to their lease agreements and other approvals (Figure 2-41).

The impacts associated with the site in its current state and future state, should it remain undeveloped, include the degradation of artificial habitats due to weather events and the subsequent impact on marine species inhabiting these artificial habitats (e.g., West Coast rock lobster); and the limitation of public access to the coast (e.g., by the Beach Club and Café) by weather conditions (e.g., flooding, storm surges, and erosion), which will affect the visual sense of place, public amenity value, and tourism in the area.

In addition to the abovementioned impacts, the No-Go option (i.e., continue maintaining the existing embankment and rubble beach in its current condition) is associated with escalating annual maintenance costs and an unacceptable risk to property and public safety.

The no-go alternative will have socio-economic opportunity costs[§] related to:

- Increased tourism and economy,
- Improved access to the coast,
- Improved ecotourism and wildlife-associated activities,
- Improved sense of place,
- Increased household income
- Increased government revenue
- Improved linkage with the V&A Waterfront and City of Cape Town,
- Increased public amenity value, and
- Job creation.

[§] Opportunity cost is defined as the implicit cost incurred by missing out on an investment, i.e., the potential benefits that are missed when choosing one alternative over another.

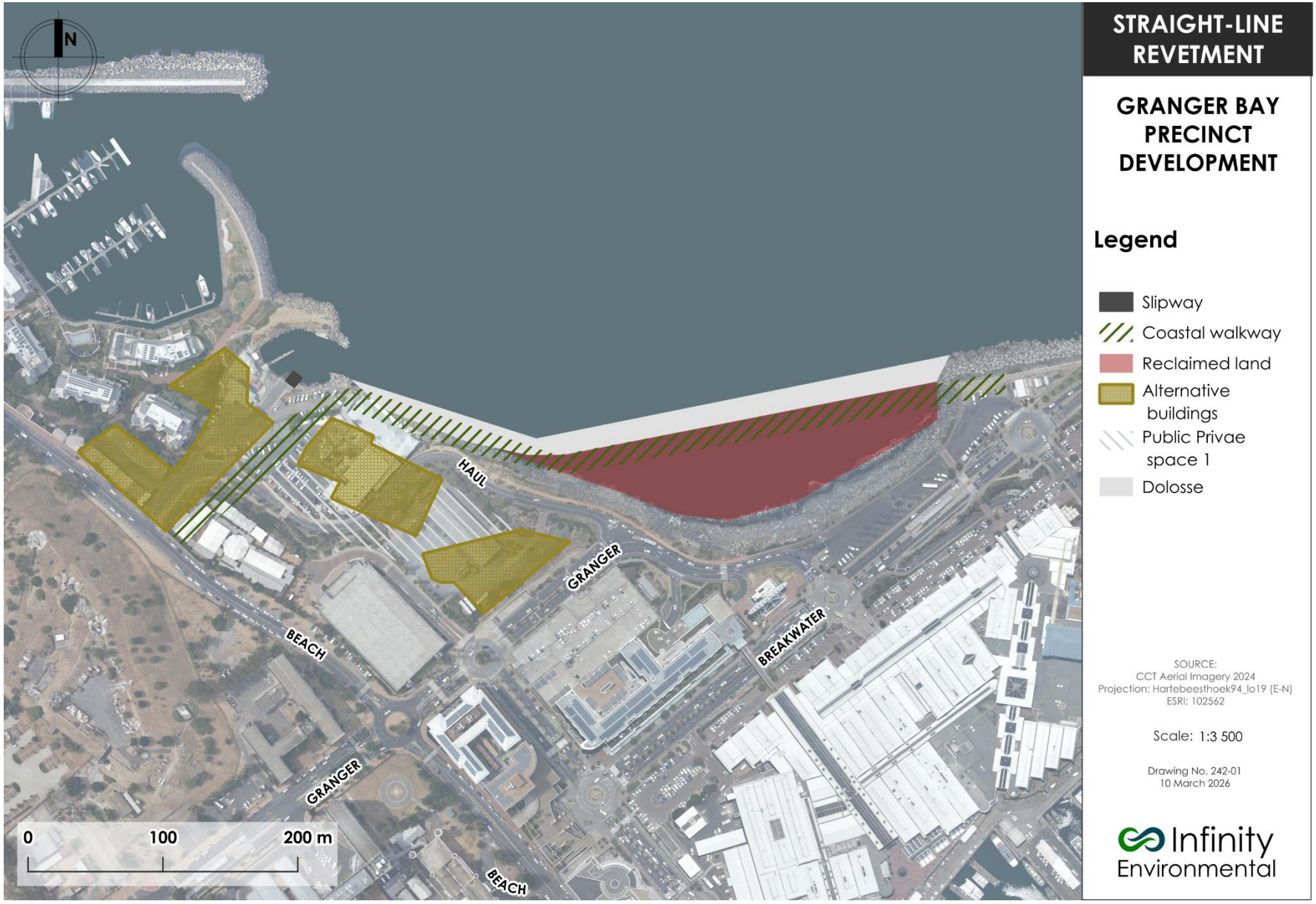


Figure 2-40: 2018 Scheme: Straight-line revetment with more limited public space and access to the water's edge

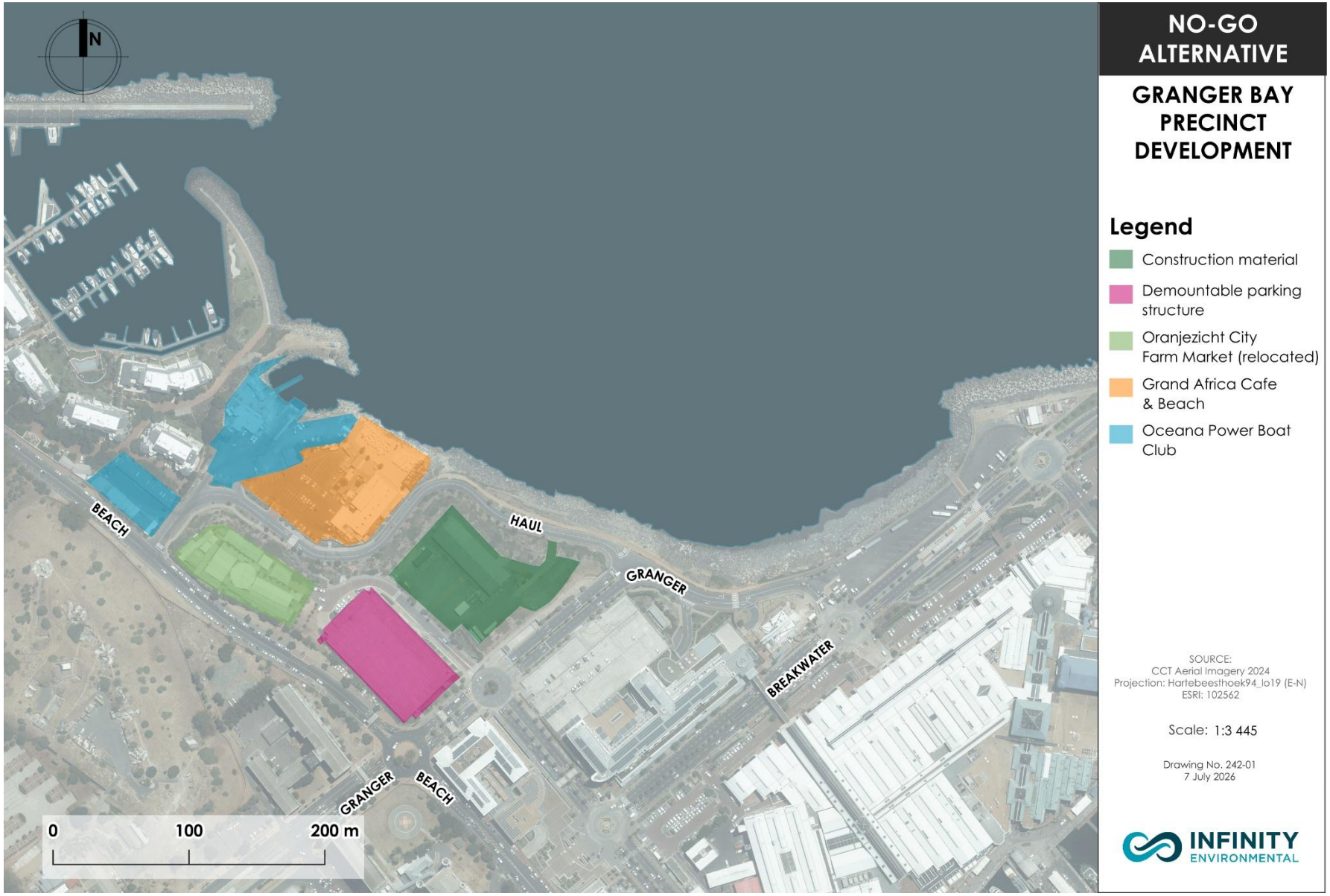


Figure 2-41: Alternative 1: No-Go Development



Figure 2-42: Preferred Alternative: Proposed Development

CHAPTER 3
SITE DESCRIPTION AND THE RECEIVING ENVIRONMENT

July 2026

Amended Environmental Impact Assessment Report

INFINITY ENVIRONMENTAL

3 SITE DESCRIPTION AND THE RECEIVING ENVIRONMENT

This chapter provides an overview of the receiving environment for the proposed expansion of Granger Bay Precinct at the V&A Waterfront (the site). The receiving environment includes social, physical, biological, cultural heritage, social and economic aspects that may be impacted by the proposed expansion, or which may affect the proposed expansion and development.

This chapter includes information about the receiving environment. The information provided is a basis from which to identify and assess the impacts of the proposed project on the environment. The information provided in this chapter has been sourced from:

- Impact assessments prepared by the project specialists **(See Appendix B)**;
- Aerial imagery;
- Site visits;
- The City of Cape Town's Biodiversity Report and Biodiversity Network;
- The National Environmental Screening Tool Report and Site Sensitivity Verification Report; and
- Other relevant national or provincial mapping and spatial datasets.

3.1 Site Description

The Granger Bay Precinct lies east of Beach Road and north of Granger Bay Boulevard. The coordinates of the site are provided below (Table 3-1). The proposed site includes a portion of Erf 173712 seawards of the 100m setback from the highwater mark, a portion of Erf 177853 (undeveloped land between Erf 173712 and the highwater mark), and land to be reclaimed from the sea below the highwater mark (Figure 3-1 and Table 3-2). The site, inclusive of the proposed reclaimed land and the proposed new bay, is approximately 107 550 m^2 in extent.

This site is located within the V&A Waterfront, a popular recreational urban area and tourist destination located southeast of Mouille Point and adjacent to Fort Wynyard. The proposed site is bordered by Beach Road to the southwest, Granger Bay Boulevard to the southeast and Haul Road to the northeast. The proposed site is located approximately 21km from the Cape Town International Airport and approximately 4km from the Cape Town Central Business District (CBD).

Table 3-1: Site Coordinates

Location boundary	Latitude	Longitude
North	33°54'1.08"S	18°25'4.15"E
South	33°54'10.29"S	18°25'1.17"E
East	33°54'4.33"S	18°25'15.49"E
West	33°54'6.28"S	18°24'49.51"E

Table 3-2: Property details

Property number	Surveyor-General code	Extent
173712	C01600070017371200000	64832.27 m^2
177853	C01600070017785300000	9075.35 m^2

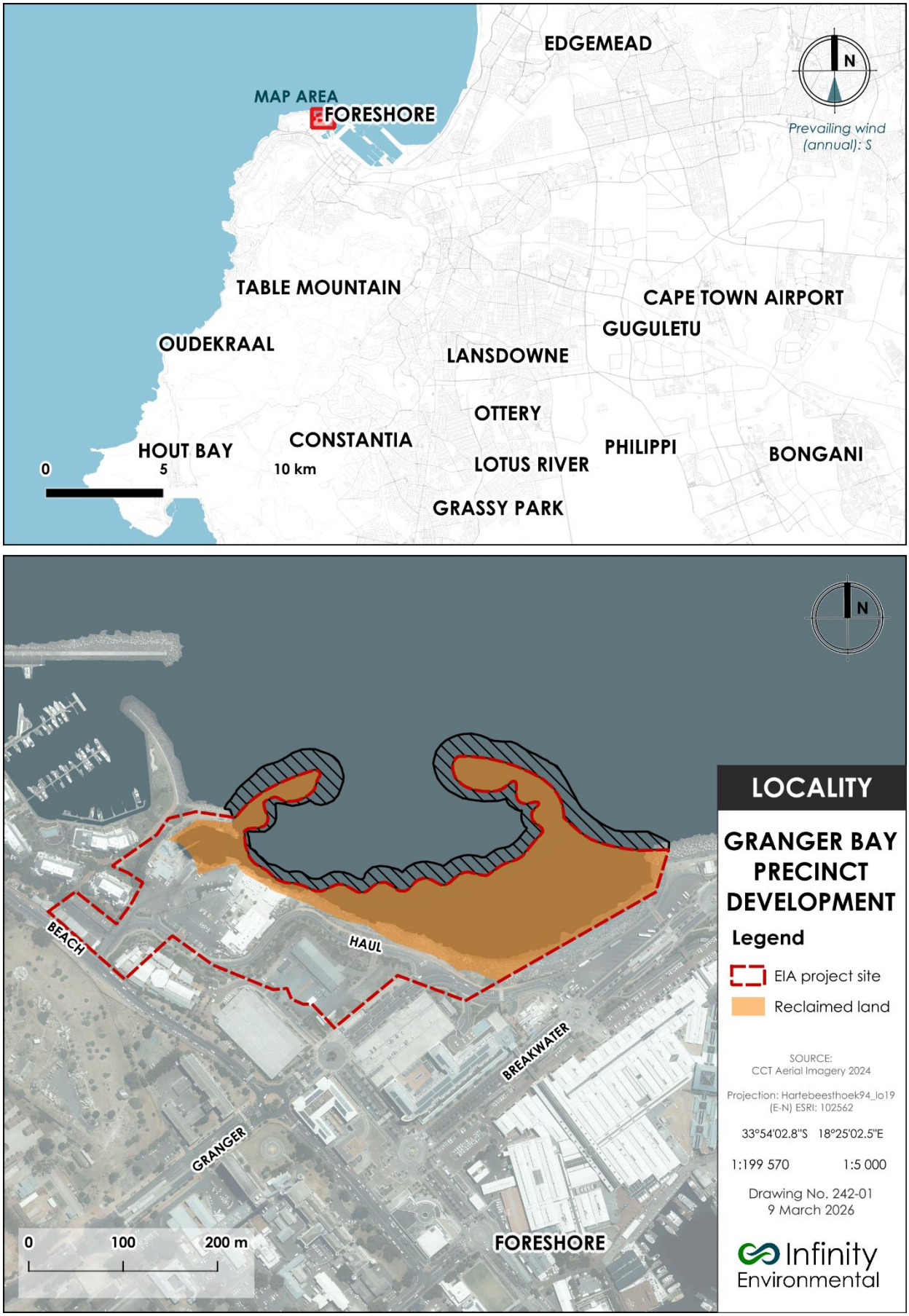


Figure 3-1: Locality Map of the proposed development

The site historically was zoned as Transport Zoning 1: (Development Zone) in accordance with the March 1993 zoning agreement between CoCT, Transnet, and V&AW. The zoning of the V&AW emanated from the Legal Succession to the South African Transport Services (SATS) Act, 1989 (Act No. 9 of 1989), notably Section 13, which provided for an 'agreement' between the V&A Waterfront (Pty) Ltd, the CoCT and Transnet on the principles and approach for developing the Waterfront property. These principles are recorded in the 'Heads of Agreement' agreed to among the three parties in 1991.

The 'Heads of Agreement' provided for the future recording of a zoning. The zoning of the property as 'Development Zone' was subsequently recorded in March 1993 and was incorporated as Item 17 in the City's Development Management Scheme (2015). This section states that "all land subject to section 13 of the Legal Succession of the SATS Act, 1989 is deemed to be zoned Transport Zoning 1: Transport Use (TR1)". Furthermore, item 17 states that the provisions and conditions contained within an agreement (between the City and SATS or any of its divisions or successors in title) shall prevail over the provisions of the TR1 zoning. Effectively, then, the 'Development Zone' of March 1993 and the associated Package of Plans approach to planning and development in the Waterfront constituted the development rules for the V&AW.

Erf 173712 and Erf 158570-re were zoned for Development (TR1), a special zoning allocated to the V&A Waterfront in terms of the Legal Succession to the South African Transport Services Act (SATS), 1989 (Act 9 of 1989). **The erven were part of a rezoning application to Mixed Use (MU3), which was approved on 21 January 2026.** The planning context is discussed in more detail in section 4.16.8.

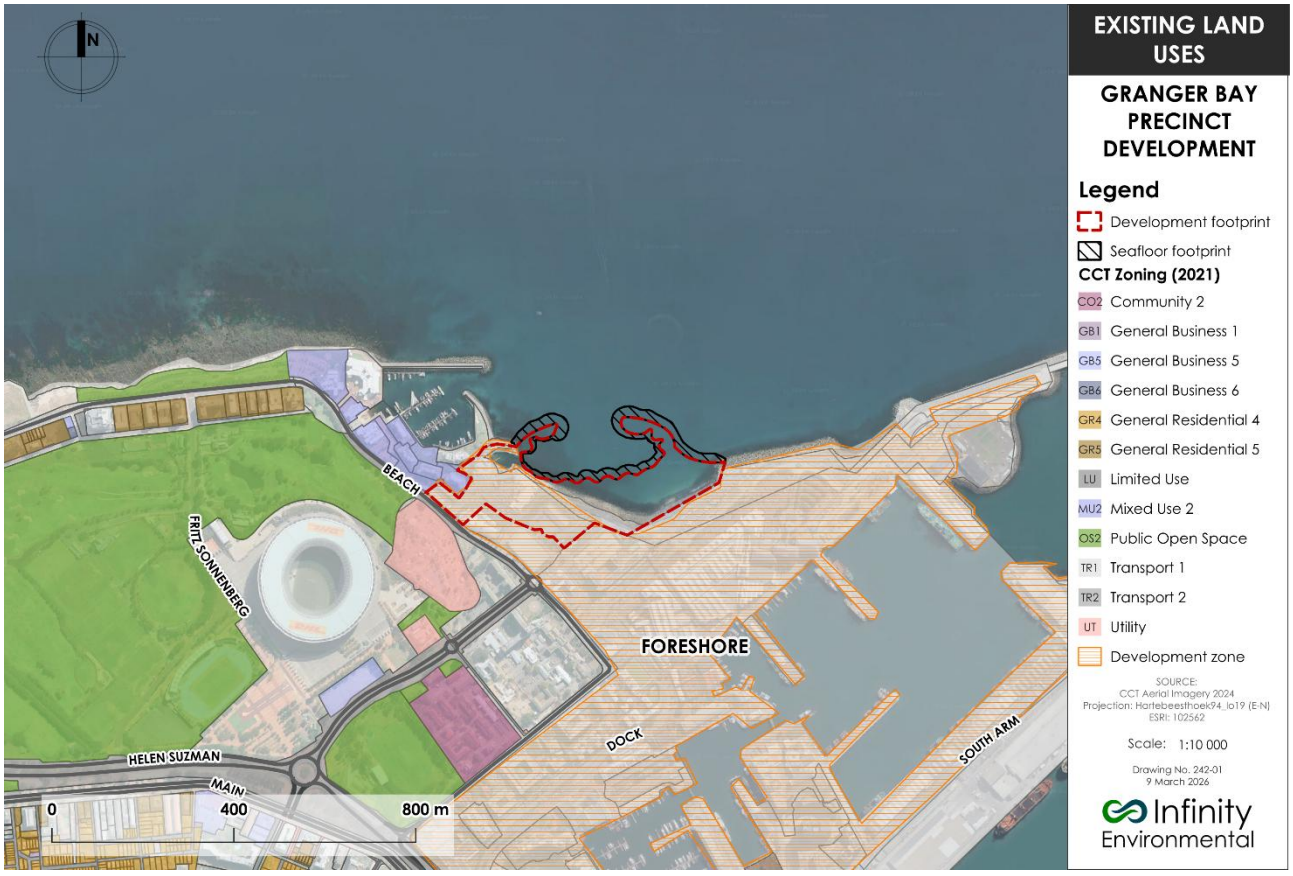


Figure 3-2: Zoning Map of the surrounding area*

**Available zoning maps pre-date the December 2025 rezoning of the V&A Waterfront, which replaced all current zonings with Mixed Use 3. The site and the remainder of the waterfront are MU3.*

3.2 Land and Marine Environment Uses



Figure 3-3: Site and surrounding land

3.2.1 Site Land and Ocean Uses

The proposed site is mostly transformed and contains commercial and retail opportunities.

A small portion of Erf 173712, located to the northwest of Haul Road, is at low elevation and is leased to the Oceana Power Boat Club (OPBC), including a small craft harbour, launch site, clubhouse and boat storage area. The OPBC is mainly utilised by recreational users such as power boats, jet skis, recreational fishermen, etc. Oceana has a jetty and slipway for launching (Photograph 3-1) as well as a clubhouse and parking area on site (Photograph 3-2 and Photograph 3-3). There is also a storage/parking area for the Oceana Power Boat Club located in the western portion of the site (Photograph 3-4).

There are some temporary land uses on the proposed site, including the Grand Africa Café and Beach Restaurant (Photograph 3-5 and Photograph 3-6), and a section of Oranjezicht City Farm Market (which has since relocated). A section of the Erf 173712 has been developed as a parking area for the V&A Waterfront, located adjacent to the site boundary on an elevated portion of the Erf that was historically a spoil area from previous phases of the V&A Waterfront development. The parking is distributed across four parking platforms, providing approximately 1.2 ha of parking space (Photograph 3-7). The area south of the parking area on Erf 173712 used to be the Atlantic Lookout venue, but this building has recently been demolished, and the construction material remains on the site (Photograph 3-8).

A section of Haul Road transects the site and separates the Oceana Power Boat Club and Grand Africa Café and Beach from the previous Oranjezicht City Farm Market site. The site also has pedestrian walkways along Haul Road and stairways that link the lower site area to the parking structure (Photograph 3-9).

The marine environment included in the proposed site consists of a gravel beach and dolosse revetments (Photograph 3-10) along the coastline to dissipate waves with a slipway to launch boats and a small dock in front of the Oceana Power Boat Club (Photograph 3-1). Erf 177853 lies between the north-western cadastral boundary of Erf 158570-RE and the high-water mark. Most of this land consists of the edge of the fill platform up to the high-water mark, part of Haul Road, and the recently constructed Promenade Walkway (Photograph 3-11 and Photograph 3-12).

3.2.2 Surrounding Land and Ocean Uses

The surrounding land uses of the proposed site are commercial, residential, transport and open space. Multiple sporting facilities are located just around the site, namely the Metropolitan Golf Club, Hamilton Rugby Club, the Green Point Cricket Club, Green Point Athletic Stadium, the United Cricket Club and the DHL Stadium. Recreational areas and activities surrounding the proposed site include the Green Point Park, Sea Point Promenade, the previous site of the Oranjezicht City Farm Market, V&A Waterfront (Figure 3-3), Zeitz MOCAA, Clock Tower and Two Oceans Aquarium (Figure 3-3).

Table Bay is well utilised by the Granger Bay Marina, the V&A Waterfront Harbour, the Cape Town Harbour and Transnet Ports, and is utilised as a recreational zone with Mouille Point Beach and Three Anchor Bay Beach near the site. This site also forms a part of the residential development that extends from Three Anchor Bay along the coastline to the Water Club.

The marine environment surrounding the site is well utilised and accessible via the neighbouring Granger Bay Marina, the V&A Waterfront and the Cape Town Harbour and Transnet Ports. It is mainly utilised as a recreational zone.

Mouille Point Beach and Three Anchor Bay Beach are in close proximity to the site. This site would form a continuation of residential development that extends adjacent to the coastline from Three Anchor Bay to the Water Club



Photograph 3-1: Oceana Power Boat Club jetty (left) and slipway



Photograph 3-2: Oceana Power Boat Club restaurant



Photograph 3-3: Oceana Power Boat Club parking area



Photograph 3-4: Storage/parking area for the Oceana Power Boat Club



Photograph 3-5: View of the Grand Café and Beach from the east



Photograph 3-6: Parking lot behind The Grand Café and Beach



Photograph 3-7: Three-story parking structure adjacent to the former Oranjezicht City Farm Market site



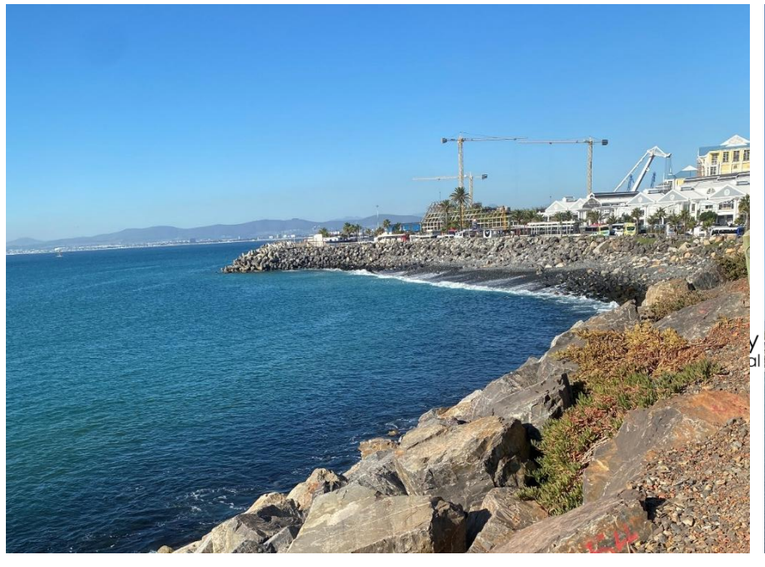
Photograph 3-8: View of the construction spoil area on site (location of the previous The Lookout Venue)



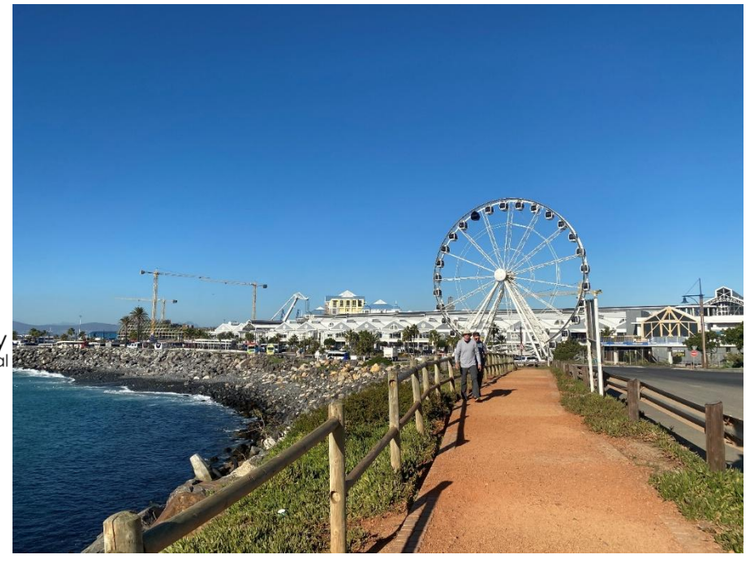
Photograph 3-9: Pedestrian walkway next to Haul Road (left) and stairway to the parking structure (right)



Photograph 3-10: Area to be reclaimed showing the dolos revetment (view from the east of the site)



Photograph 3-11: Area to be reclaimed showing the gravel beach



Photograph 3-12: Land Surrounding the site showing the promenade, V&A Waterfront Mall and Ferris Wheel

3.3 Noise Environment

The project site and surrounding area represent a variety of different urban land uses and activities, and noise monitoring was conducted to establish the existing noise levels at different locations within the vicinity of construction activities by the noise specialist team, DDA Environmental Engineers. Information contained in this section. The monitoring programme indicates that the existing acoustic environment across the study area is characteristic of a busy urban waterfront setting. Ambient noise levels vary spatially depending primarily on the degree of shielding from the surrounding road network, particularly Beach Road and Helen Suzman Boulevard, as well as the influence of local recreational and commercial activities.



Figure 3-4: Ambient Noise Monitoring Locations

Monitoring locations situated within the Waterclub precinct benefit from partial shielding from the surrounding road network and generally exhibit daytime ambient noise levels representative of the transition between an Urban District and an Urban District with business premises and main roads, with measured daytime equivalent sound levels generally ranging between approximately 50 dB(A) and 60 dB(A). In contrast, the roadside monitoring locations are directly exposed to traffic along Beach Road and Granger Bay Boulevard and consequently recorded the highest ambient noise levels within the study area, with daytime equivalent sound levels consistently exceeding the SANS 10103 guideline value of 60 dB(A) for Urban Districts with business premises and main roads.

The existing receiving noise environment is further influenced by several established urban and recreational noise sources. These include road traffic, helicopter operations associated with the nearby helipad, recreational marine craft operating from the Oceana Power Boat Club (OPBC) slipway, vessel movements between the V&A Waterfront Marina and the Port of Cape Town, general harbour-related commercial activities, nearby construction activities, events at the DHL Stadium and general pedestrian activity throughout the Waterfront precinct. Collectively, these sources

contribute to an elevated daytime ambient noise climate, particularly during periods of increased recreational and commercial activity. The measured ambient noise environment is therefore representative of the existing land uses surrounding the study area and provides an appropriate baseline against which the predicted operational noise impacts of the proposed development have been assessed.

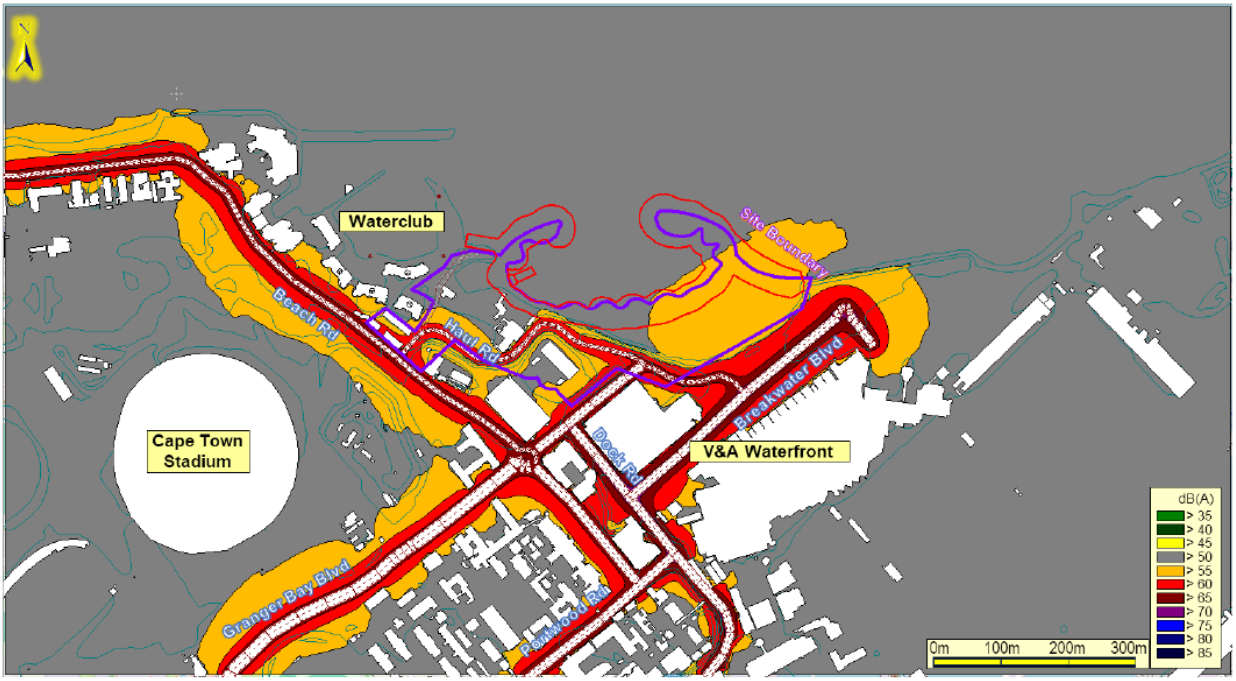


Figure 3-5: Modelled cumulative baseline noise (DDA, 2026)

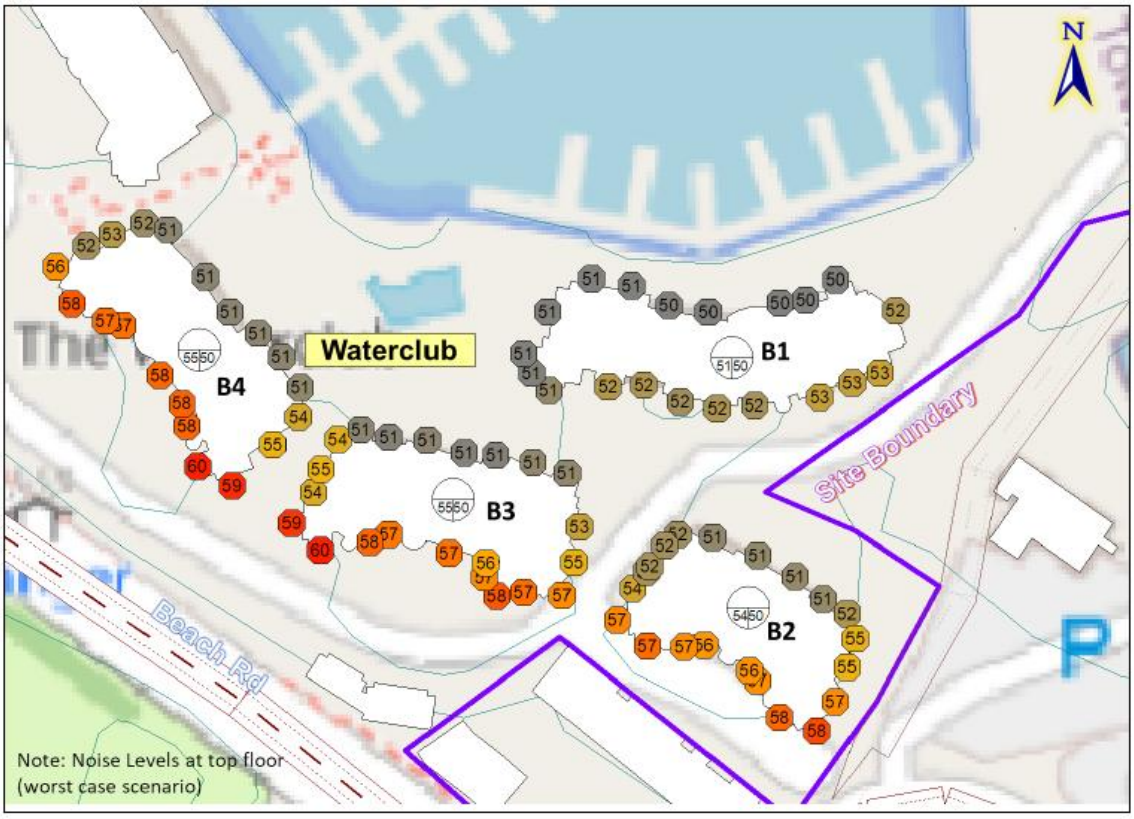


Figure 3-6: Modelled cumulative noise levels at the Waterclub Marina (DDA, 2026)

3.4 Biophysical Environment

3.4.1 Climate

Granger Bay, located in Cape Town, South Africa, has a Mediterranean climate that is characterised by warm, dry summers and cool, wet winters with rainfall peaking in the winter months (Table 3-3). Cape Town's climate is also influenced by changes in ocean conditions due to its location on the coast. The average water temperature range of the Atlantic Ocean adjacent to Granger Bay is 15°C to 19°C.

Table 3-3: Climatic conditions of the proposed site

Climatic condition	Description
Seasons	Mildly cold winters and warm summers
Average winter temperature	8°C to19°C
Average summer temperature	16°C to 28°C
Average annual precipitation	584 mm
Wind	Westerly winds in winter and southeasterly winds mostly in summer
Humidity	Moderate humidity

3.4.2 Natural Hazard Risk Exposure

A Climate Change Impact Assessment was completed by SRK Consulting to determine the risks posed to the development from sea-level rise and other climate change enhanced hazards. Flooding, coastal flooding, storm surge, drought and wildfire emerge as the most relevant regional natural hazards. Risks to the site as a result of these natural hazards are summarised below:

- **Flooding** is the most common recorded hazard in the Western Cape, accounting for 44.4% of disasters since 1980. The site is currently at medium risk of inland flooding and very high risk of coastal flooding risk due to its shoreline position.
- **Storm surge** occurs frequently, with regional projections showing modest increases in surge height by 2050 and local bathymetry contributing to higher winter storm exposure.
- **Drought frequency** is increasing, with biannual drought occurrence since 2015 and strong evidence of future intensification.
- **Wildfire risk** is high regionally; however, the immediate project site is fully urbanised and coastal and therefore has a low risk of direct exposure.
- **Coastal erosion risk** is low for most of the Waterfront due to engineered protections, but will increase with projected sea-level rise.

Climate change projections indicate substantial warming, drying, and sea-level rise as follows:

- **Temperature:** Mean, minimum, and maximum temperatures are projected to increase by up to 1.4 °C by the 2060s and by up to 3.3 °C by 2100 under high-emission scenarios.
- **Rainfall:** MAP is projected to decline by up to 11.7% by the 2060s and by up to 25.6% by 2100, with fewer very wet days and lower 1-day maximum rainfall. This increases drought risk and reduces the risk of inland flooding.
- **Sea level:** The sea level is expected to rise by 0.3 m by the 2060s and by 0.7 m by 2100.
- **Ocean conditions:** Sea-surface temperature and acidity will increase, elevating the corrosion potential of marine and inland infrastructure.

3.4.3 Topography

The topography of the proposed Granger Bay Precinct site has a subtle increase in elevation from the western section to the eastern section of the site land, for example, the elevation near the Oceana Power Boat Club is around 1 metre above sea level (masl), whereas the elevation near the previous location of the Oranjezicht City Farm Market is about 12masl. However, the proposed site is generally flat and increases steadily to the base of Signal Hill in Green Point and increases to around 350masl at the top of Signal Hill (Figure 3-7).

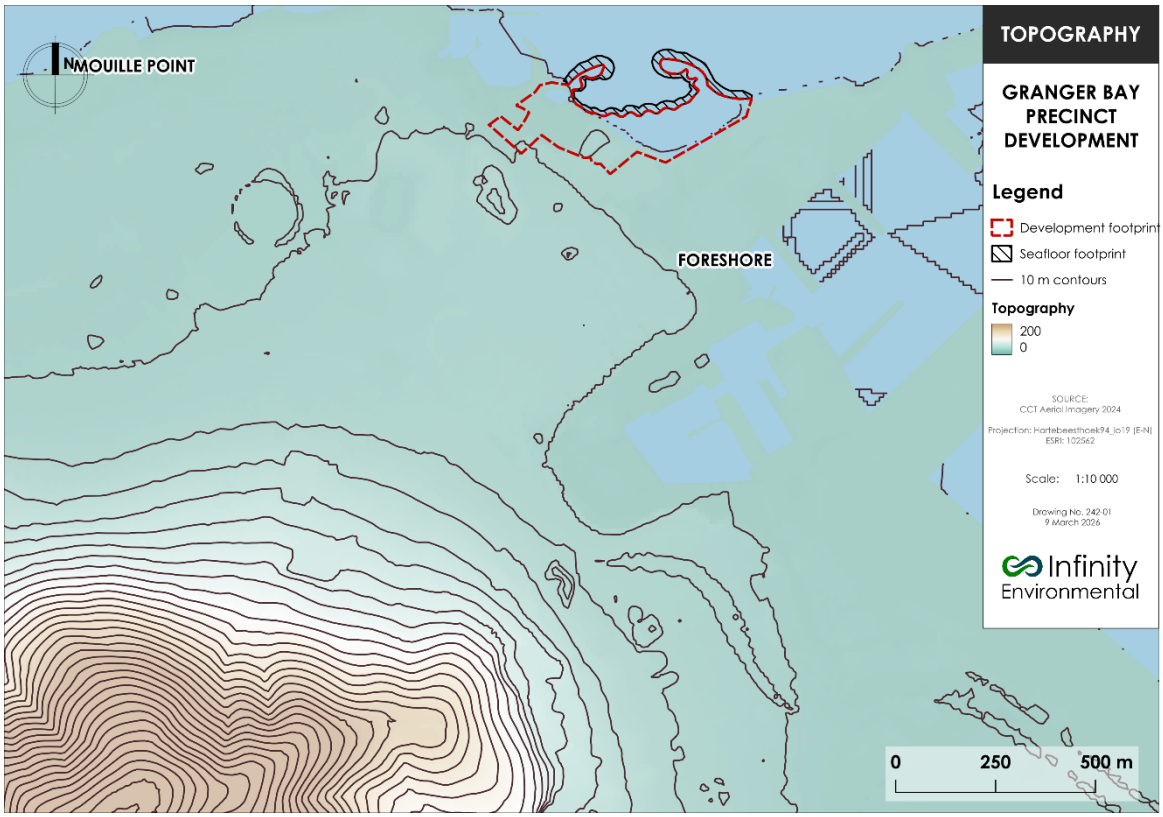


Figure 3-7: Site topography (10m contours)

3.4.4 Groundwater and Geology

The site is primarily underlain by fill material, some of which included previous reclamation and dumping.

The proposed Granger Bay Precinct site overlays a portion of the Malmesbury Group and Cape Granite Aquifer, a major fractured aquifer with an average yield of 0.1 – 0.5 l/s. The Malmesbury Group consists of metavolcanic and metasedimentary rocks, including greywacke, phyllite and quartzite of the Tygerberg Formation, whereas the Cape Granite Group consists of porphyritic granite and biotite granite of the Cape Peninsula Pluton and Cape Granite Suite. Limestone is rare and usually absent in these landscapes.

The electrical conductivity of the aquifer ranges between 70 – 150 mS/m, indicating a good to moderate groundwater quality based on DWAF (2000); however, quality may vary due to geological heterogeneity in the area. The site is classified as most vulnerable to surface-based contaminants with a high susceptibility (Water Research Commission, 1993). Although this aquifer may be less susceptible to contamination due to weathering clay minerals, which reduces permeability.

According to Cape Farm Mapper, the depth to groundwater is 7.46 metres below ground level (mbgl) and has a recharge of 75.39 mm/a.

3.4.5 Terrestrial Environment

The proposed site is located within the Cape Floristic Region (CFR), one of six floral kingdoms in the world, primarily due to its high number of endemic species and biodiversity. At only 90 000km^2, the CFR supports more than 9000 species of which almost 70% are endemic, therefore representing one of the most diverse floras in the world (Goldblatt and Manning, 2000; Goldblatt et al., 2005). The site is in the fynbos biome, one of the world's most threatened biomes due to increasing anthropogenic pressures.

The Terrestrial Biodiversity Network (2024) as seen in **Figure 3-8** does not select the site or its surroundings as critical biodiversity areas (CBA) or ecological support areas (ESA).

The DFFE National Screening Tool Report **(Appendix K)** identified the Granger Bay precinct site as being of very high sensitivity due to the historical (pre-development) presence of the critically endangered Peninsula Shale Renosterveld (PSR) on site. PSR is a unique vegetation type that is endemic to Cape Town and was historically centred in the city bowl, but has since been reduced significantly. This vegetation type is now only found on the lower northern slopes of Devils Peak, Table Mountain and Signal Hill, where it is conserved as a part of the Table Mountain National Park. Noteworthy threats to PSR include mismanagement (mowing and fire protection) and alien plant invasion. Although the conservation target is 26%, only around 13% of PSR remains (Rebelo et al., 2006; Cowan and Anderson, 2014).



Figure 3-8: Terrestrial Biodiversity Network (2024)

The protocol for the assessment and reporting stipulates that a very high sensitivity rating for terrestrial sensitivity requires an assessment report. Although Peninsula Shale Renosterveld was historically present on the proposed site, it is no longer present. The site has been transformed through anthropogenic development since at least 1911, and the sea-facing portions have been reclaimed from the sea utilising fill. Therefore, terrestrial sensitivity is not very high, and a terrestrial sensitivity impact assessment is not required **(Appendix L)**.

3.4.6 Oceanography

Table Bay, a relatively shallow bay with a maximum depth of 35 m, is located in the southern Benguela current ecosystem (Carter, 2006; WML Coast, 2025), that encompasses Robben Island and the coastline from Mouille Point to Bloubergstrand, including the Port of Cape Town and the proposed site in the Granger Bay precinct (**Figure 3-9**). The seabed mainly consists of exposed bedrock, with thin layers of sand (Van Ballegooyen et al., 2006).

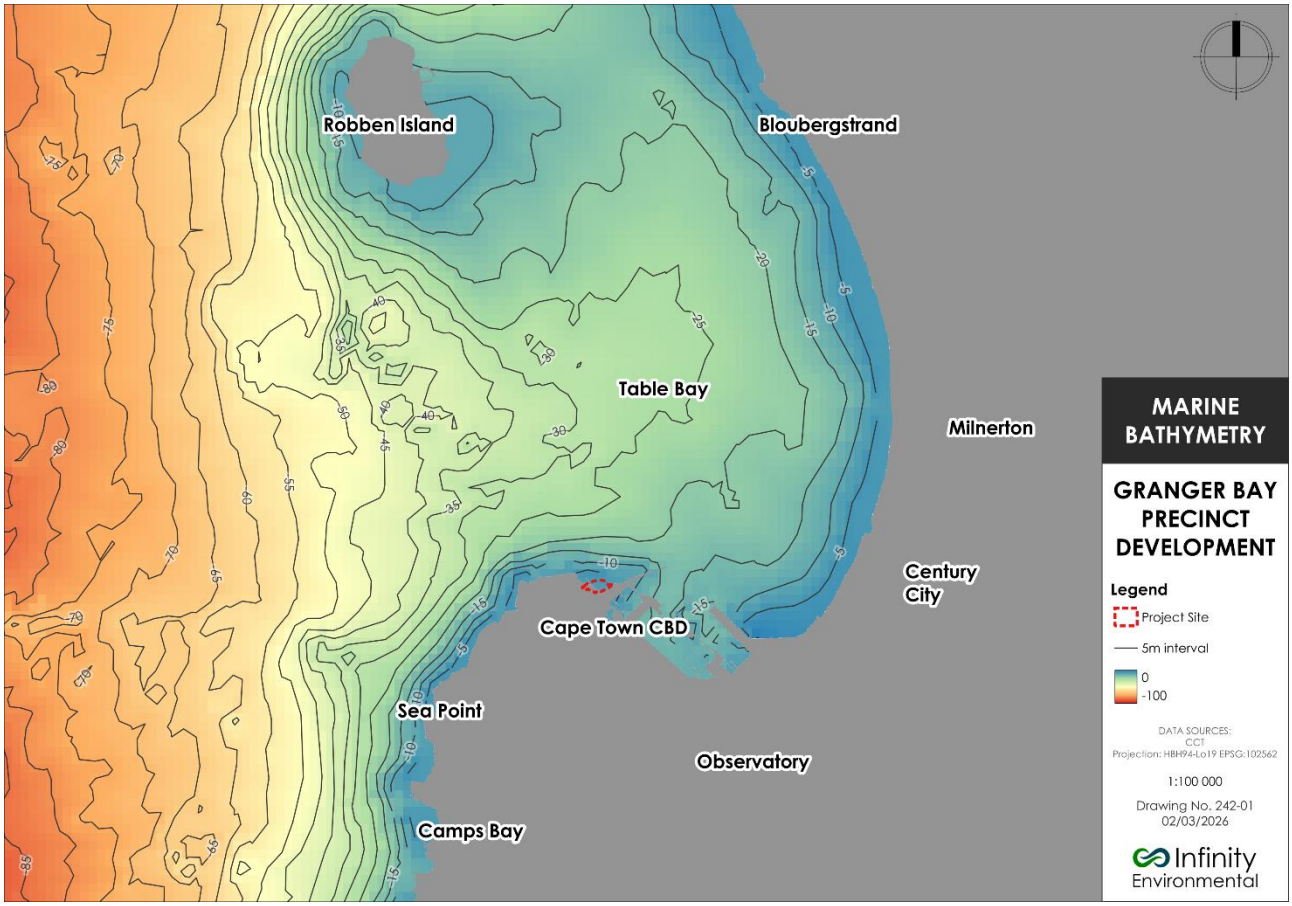


Figure 3-9: Bathymetry of Table Bay

The Benguela system is mainly influenced by the wind-driven upwelling of deep nutrient-rich water close to the coast, thus strongly influencing both water temperature and nutrient concentration and subsequently, primary production. Upwelling cells in the southern Benguela system are located off the Cape Peninsula and Cape Columbine. This upwelling region is one of the world's most productive systems, supporting rich fishing grounds and attracting large colonies of sea birds and seals (Harris et al., 2019; Branch & Griffiths, 1988).

Currents in the bay are predominantly wind-driven, with minor influences from tidal forcing. In the summer, the strong south-easterly winds drive a northward, anti-clockwise circulation in Table Bay

with a surface flow of 0.2-0.3 m/s (Quick & Roberts, 1993) which results in upwelling. Conversely, the predominantly north/north-westerly winds in winter produce clockwise circulation (Daniels et al., 2022), bringing large swells and storm events from the Southern Ocean (Figure 3-10). However, currents in the port are driven by tidal fluctuations with a slight influence from wind-driven forces and minor wave action due to the protection of the Port of Cape Town's main breakwater (Diedericks & Smit, 2013).

Tides in the Port of Cape Town are generally weak and semi-diurnal with maximum and minimum tides of 2 m and 1m respectively (Diedericks & Smit, 2013), although in situ variations can be up to 0.5 m from the predictions due to meteorological conditions. Localised currents may also influence navigation and deposition in the Port.

During summer months, the water temperature in Table Bay can range from 9°C to 13°C when upwelling occurs, but as solar radiation heats the water's surface, the water column becomes highly stratified. However, during periods of relaxed upwelling, water temperatures can increase rapidly to above 20°C (Monterio, 1997). In winter months, storms cause vertical mixing in the water column, therefore producing water temperatures of 14°C to 16°C (CSIR, 2016). Water temperatures within the port are similar to that of Table Bay. Table Bay experiences a salinity of 34.7 practical salinity units (PSU) to 35.3 PSU, with lower salinity values near Diep and Salt River mouths, especially during winter months (CSIR, 2016).

The DFFE National Screening Tool Report identified an Oceanographic Impact Assessment to be conducted based on the selected classification of the report (any activity in an estuary, on the seashore, in the littoral active zone, or in the sea). Based on these recommendations, WML Coast has provided a Oceanographic Impact Assessment. The hydrodynamic modelling conducted by PRDW (**Appendix G2**) is applicable to the proposed development and has been interpreted in the Oceanographic Impact Assessment by WML Coast (2025 – **Appendix B5**). A Climate Change Impact Assessment was conducted by SRK Consulting to ensure climate change-related risks are assessed and avoided where possible.

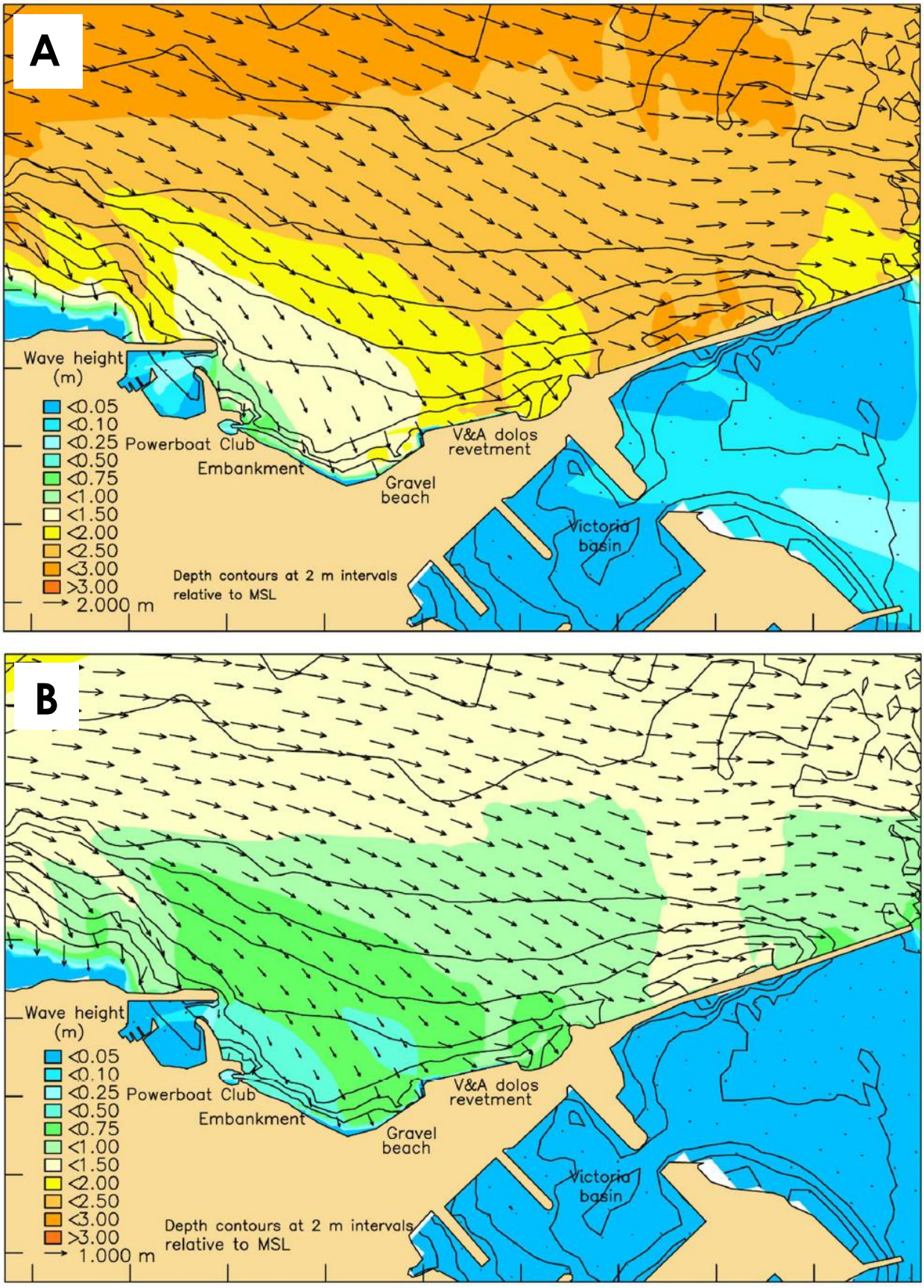


Figure 3-10: An example of the significant wave heights and mean wave directions in Granger Bay for an offshore condition with significant wave height = 5m, Peak wave period = 12.5s and mean wave direction = southwest (A) and west (B).

3.4.7 Marine Environment and Biodiversity

The marine environment in Granger Bay has been impacted by extensive development and urbanisation, with the majority of the eastern shore being reclaimed. The eastern shore is currently protected by a dolos revetment, which provides an artificial rocky shore habitat for marine organisms such as the invasive mussel (*Mytilus galloprovincialis*), the west coast rock lobster (*Jasus lalandii*), kelp (*Ecklonia maxima*), pink coralline algae and grazing patellid limpets. The coast in the centre of Granger Bay contains a temporary rock revetment and steep gravel beach, which is subjected to wave abrasion. The western shoreline of Granger Bay also consists of artificial structures, including a sheltered boat launch site managed by the Oceana Power Boat Club, the Granger Bay Marina and a rubble embankment (Wright, Laird and Clark, 2018; Wright, Jackson and Rees, 2025).

Table Bay water quality is considered to be good, mainly due to limited sources of direct pollution and contaminants, although water quality in the Port of Cape Town is impacted by stormwater outflows, metal accumulation, faecal contamination and high concentrations of microplastics. There is also direct contamination into the Bay from the Green Point wastewater outfall (Wright, Jackson and Rees, 2025).

The DFFE National Screening Tool Report identified a Marine Impact Assessment to be conducted based on the selected classification of the report (any activity in an estuary, on the seashore, in the littoral active zone, or in the sea). Based on these recommendations, Anchor Environmental Consulting has provided a Marine Impact Assessment and Sea Search Research and Conservation has provided a Marine Mammal Specialist report (Elwen, 2025).

Marine Ecosystems

The marine biogeographic patterns around the coast of South Africa were more recently mapped by Sink et al. (2012), whereby new ecoregions were defined. According to the divisions, Table Bay falls into the cool temperate west coast area, in the Southwestern Cape inshore region.

The Southern Benguela Ecoregion, in which the Southwestern Cape inshore falls, is the most productive ecoregion in South Africa (Harris et al., 2019). This is primarily due to upwelling that provides nutrients and enhances biological productivity, thus supplying food for diverse fauna, including pelagic and demersal fish (anchovy and hake, respectively); nearshore fisheries (abalone); mammals (seals); and seabirds (penguins). Additionally, sheltered bays such as Table Bay are essential in temperate marine environments as they provide relative warmth and sheltered areas which increase primary production, thereby supporting complex food webs (Harris et al., 2019).

The proposed site consists of two marine ecosystems, the Cape Kelp Forest and Cape Mixed Shore (Figure 3-11). The marine ecosystem types that may be directly or indirectly affected during the proposed development and reclamation include:

- The Cape Bay
- Cape Kelp Forest
- Cape Mixed Shore
- Artificial surfaces of the harbour



Figure 3-11: Marine Ecosystems Map (2018)

3.4.7.1.1 Cape Bay

The Cape Bay ecosystem is an open pelagic system with pelagic communities (Table 3-4) typical of those found throughout the southern Benguela ecosystems (Carter, 2006; Carter et al., 2003). Very little information on pelagic communities in the Cape Town Port has been published, although Cape fur seals, euphausiids, mullet and box-jellyfish are often observed in the port (Wright et al., 2025).

Marine mammals are often sighted in Table Bay for breeding, feeding and shelter from heavy swell (Barendse *et al.*, 2011). Common marine mammals observed in Table Bay include Humpback whales (*Megaptera novaeangliae australis*), Southern right whales (*Eubalaena australis*), Bryde's whale (*Balaenoptera edeni brydei*), Killer whales (*Orcinus orca*), Common dolphins (*Delphinus delphis*), African dusky dolphins (*Lagenorhynchus obscurus obscurus*) and Heaviside's dolphin (*Cephalorhynchus heavisidii*) (Table 3-5).

Cape fur seals are also often spotted in Table Bay, although there is no breeding colony in the bay (Huisamen et al., 2011). Other less common mammals observed in Table Bay are the Subantarctic fur seal (*Arctocephalus tropicalisa),* Leopard seal *(Hydrurga leptonyx),* Southern elephant seal *(Mirounga leonia),* and the Cape clawless otter *(Aonyx capensis)*.

Table 3-4: Table Bay pelagic community composition (Carter, 2006)

Group		Genera
Phytoplankton	Diatoms	*Chaetoceros, Nitschia, Thalassiosira, Skeletonema, Rhizoselenia, Coscinodiscus, and Asterionella*
	Dinoflagellates	*Prorocentrum, Tripos* and *Peridinium*
	Harmful algal species	*Tripos furca, T. lineatus, Prorocentrum micans, Dinophysis sp., Noctiluca scintillans, Alexandrium tamarense, G. polygramma, Alexandrium catanella* and *Mesodinium rubrum*
Zooplankton	Copepods	Centropages, Calanoides, Metridia, Nannocalanus, Paracalanus, Ctenocalanus and Oithona
	Euphausiids	-
	Fish eggs or larvae	*Engraulis capensis, Sardinops sagax, Merluccius sp.* and *Trachurus sp.*
Fish	Nearshore	*Chelon richardsonii, Atherina breviceps, Rhabdosargus globiceps, Clinus latipennis, Psammogobius knysnaensis* and *Caffrogobius nudiceps*
	Offshore	*Thyrsites atun, Pachymetopon blochil, Thunnus alalunga,* and *Scomber japonicas*

Table 3-5: Marine mammals of Table Bay (Elwen, 2025 and Wright et al., 2025)

Suborder	Common name	Species	IUCN Listing (IUCN 2025)	Encounter frequency
Mysticeti (Baleen whales)	Humpback whales	*Megaptera novaeangliae australis*	Least Concern (*M. novaeangliae*)	Year-round at some level, with feeding peaks and likely daily presence during Nov-Feb
	Southern right whales	*Eubalaena australis*	Least Concern	Year-round with peaks in Jul-Sep (breeding) and Feb-April (feeding)
	Bryde's whale	*Balaenoptera edeni brydei*	Least Concern *(Vulnerable on the SA Red List)*	Monthly, peak in winter-spring, mainly Aug-Oct
Odontoceti (Toothed whales)	Killer whales	*Orcinus orca*	Data Deficient	<5 times per year
	Common dolphins	*Delphinus delphis*	Least Concern	Monthly, summer peak
	African dusky dolphins	*Lagenorhynchus obscurus obscurus*	Data Deficient	Daily
	Heaviside's dolphin	*Cephalorhynchus heavisidii*	**Near Threatened**	Daily

3.4.7.1.2 Cape Kelp Forest

Upwelling along the west coast of South Africa allows for the growth of *Ecklonia maxima* and *Laminaria pallida,* which dominate kelp forests as well as the algae *Macrocystis pyrifera,* which dominates more sheltered areas (Branch and Griffiths, 1998). There are large faunal communities inhabiting kelp forests, including carnivores (crabs, rock lobsters, sea stars, whelks and anemones), grazers (sea urchins, limpets, abalone, isopods and amphipods), and fish (hottentot seabream, red-finger, two tone finger-fin, galjoen and various klipfish) (Carter et al., 2003). These ecosystems are of great importance because they provide essential ecosystem services, including protection against coastal erosion, commercial and subsistence fishing, ecotourism and provide ecological services such as habitat provision and nursery areas (Blamey and Bolton, 2018).

Ecological reef surveys were conducted in April 2024 at ten sites within Granger Bay using photo-quadrats and video transects to provide a description of the reef community present within the Bay (Figure 3-12; Dawson et al., 2024). Results from the survey included 80 species, whereby diversity within the bay was fairly consistent, ranging from a minimum of 42 taxa to a maximum of 53 taxa, with nine species recorded from every site. The reef communities were comprised of 64% of marine animals and 36% of marine plants (Dawson et al., 2024). The reef communities were found to be fairly homogenous across the bay with slight variations due to environmental variations (Dawson et al., 2024).



Figure 3-12: Example of a photo-quadrant on reef communities (left) and video transects (right) (Wright et al., 2025)

3.4.7.1.3 Cape Mixed Shore

Sandy and rocky habitat characterise the Cape Mixed Shore ecosystem, with the ecology similar to that of the great West Coast region (McQuaid et al., 1985, Branch & Griffiths 1988). The rocky shore habitat in Table Bay is heavily invaded by the Mediterranean mussel (*Mytilus galloprovincialis*), whereas the benthic habitats are dominated by polychaetes, nematodes and amphipods (CSIR, 2016; Wright et al., 2019).

These benthic communities are impacted by both environmental changes (e.g., sediment granulometry, salinity and particulate organic matter) and anthropogenic activities (e.g. habitat modification and pollution). However, long-term monitoring indicates that there is a higher abundance of pollution-tolerant benthic taxa, rather than disturbance-tolerant benthic taxa in the Port of Cape (CSIR, 2017b), with macrofaunal communities in the port being classified as either fair or poor (CSIR, 2016). A baseline survey by Dawson et al., (2024) in Granger Bay and section of Table Bay identified 72 benthic macroinfauna, where there was a slightly higher abundance of macroinfauna being identified in Table Bay compared to Granger Bay. This was likely due to the lower wave action, higher mud and total organic content retention at the eastern corner of Table Bay (Dawson et al., 2024; Wright et al., 2025). Species diversity was similar between the impact and control sites, with a patchier distribution in Granger Bay compared to Table Bay (Dawson et al., 2024).

3.4.7.1.4 Artificial surfaces of the Harbour

The ecology of the hard surfaces of the Port of Cape Town is expected "to resemble an impoverished version of a sheltered rocky shore typical to the south-western Cape Bioregion" (Quick & Roberts

1993). Nonetheless, the fouling community, including sea squirts, tunicates, amphipods, klipfish, crabs and small lobsters, inhabiting the hard structures of the harbour is reported to be diverse and well-developed (Carter et al., 2003; Anchor Environmental Consulting, 2013).

The vertical harbour walls outside of the port also host large numbers of juvenile West Coast rock lobster *Jasus lalandi*, encrusting corallines, the barnacle *Notomegabalanus algicola*, the sea urchin *Parechinus angulosus* and the ribbed mussel, *A. ater* (Mayfield 1998, Hazell et al., 2002, Carter et al., 2003). In contrast to the rocky substrata of the broader Table Bay, there is a relatively low cover of mussels on these artificial surfaces, and an unusually high cover of encrusting corallines (Carter et al., 2003).

Field surveys undertaken in February 2018 indicate that the dolosse of Table Bay breakwater are a highly heterogeneous habitat (Wright et al., 2018), with West Coast rock lobster, crabs and urchins living among the mussels, kelp and red bait on the dolosse. Environmental heterogeneity is an important factor in determining community structure, and there is widespread evidence showing a positive relationship between species richness and environmental heterogeneity (Yang et al., 2015).

Human uses and influences on the marine environment

Table Bay provides a significant number of ecosystem, economic and industrial services, most importantly, the Port of Cape Town, which is a key node for regional and international shipping maritime trade, is located in Table Bay (Carter, 2006). Moreover, various shipping fleets operate from the port, with processing and export activities occurring adjacent to the port (Wright et al., 2025). Seawater from the port is also used for cooling of the Clocktower Precinct, and Victoria Basin seawater is utilised for the Two Oceans Aquarium exhibits (Anchor Environmental Consulting, 2013). Table Bay also supports a thriving recreational boating community, as well as attracting local and international tourists to the area for SCUBA diving, snorkelling, walking and bird watching (Table 3-6).

Table 3-6: Human uses of Table Bay (Adapted from Carter, 2006; Van Ballegooyen, 2007)

Use	Description
Shipping	The predominant use of the Bay, both container and cruise, i.e. vessel navigation areas and anchorages
Commercial fishing	Boat-based line fishery for snoek, hottentot and tunas in and adjacent to Table Bay. Prior to the closure of the fishery, abalone was dived for in the shallow rocky subtidal zone south of Mouille Point and around Robben Island
Recreational fishing	For consumption and bait on beaches from Milnerton to Blouberg
Industrial	Marine sewage outfalls (the Green Point pipeline and the Chevron/Caltex pipeline); industrial cooling water use at the Koeberg power station; used and disused sea cables (Schoonees, 2006) with landfalls at Milnerton and Melkbosstrand, and from Granger Bay Marina and Murrays Harbour and the Port of Cape Town
Nature conservation	Table Mountain National Park (TMNP) manages a 'multi-use' Marine Protected Area (MPA) from Mouille Point, 14 km offshore, and south to Cape Point. Commercial and recreational fishing is allowed within the boundaries of the MPA, but there are 'no take' sanctuaries where fishing is prohibited. Table Bay is also a rock lobster sanctuary. Robben Island and surrounding areas are also a zoned MPA.
Recreation	Water sports such as yachting, kayaking, wind and kite surfing, surfing, diving, swimming and whale watching, as well as general beach and coastal recreation

Marine Protected Areas

Marine Protected Areas (MPAs) are essential because they enhance the resilience of an ecosystem to threats, including climate change and other stress factors. There are two types of MPA zones, namely the restricted areas (no-take zones) and controlled areas (not a no-take zone but has certain restrictions). MPAs are protected in terms of the Protected Areas Act (Act No. 57 of 2003), which

states that no person may conduct commercial prospecting or mining, exploration, production or related activities in a protected environment without the written permission of the Minister and the Cabinet member responsible for minerals and energy affairs.

A MPA, specifically the Robben Island Marine Protected Area, is located west of the site (Figure 3-13) and is classified as a controlled zone, which refers to areas that are protected but that allow certain human activities (i.e. spearfishing, angling, etc.) with permission. However, there is no overlap with the proposed development (Wright et al., 2025).

The entirety of Table Bay falls within a rock lobster sanctuary (Figure 3-14) and thus no West Coast rock lobster (*J. lalandi*) may be caught, either recreationally or commercially, in Table Bay due to overexploitation. The outer harbour wall of the Port of Cape Town and the subtidal rocky reefs at Mouille Point have been identified as nursery reefs for *J. lalandi* (Hazell et al., 2002).

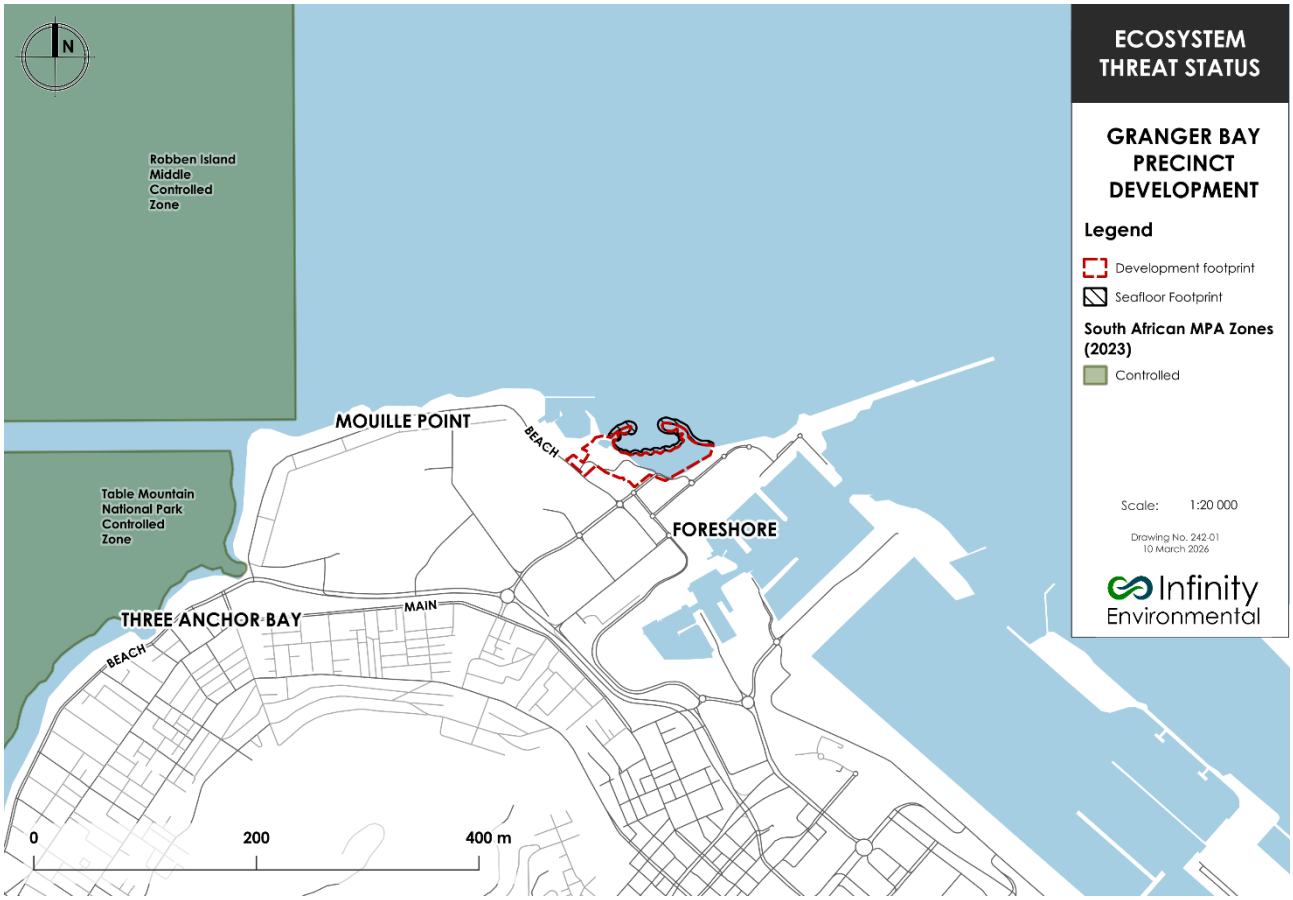


Figure 3-13: Marine Protected Areas in Table Bay

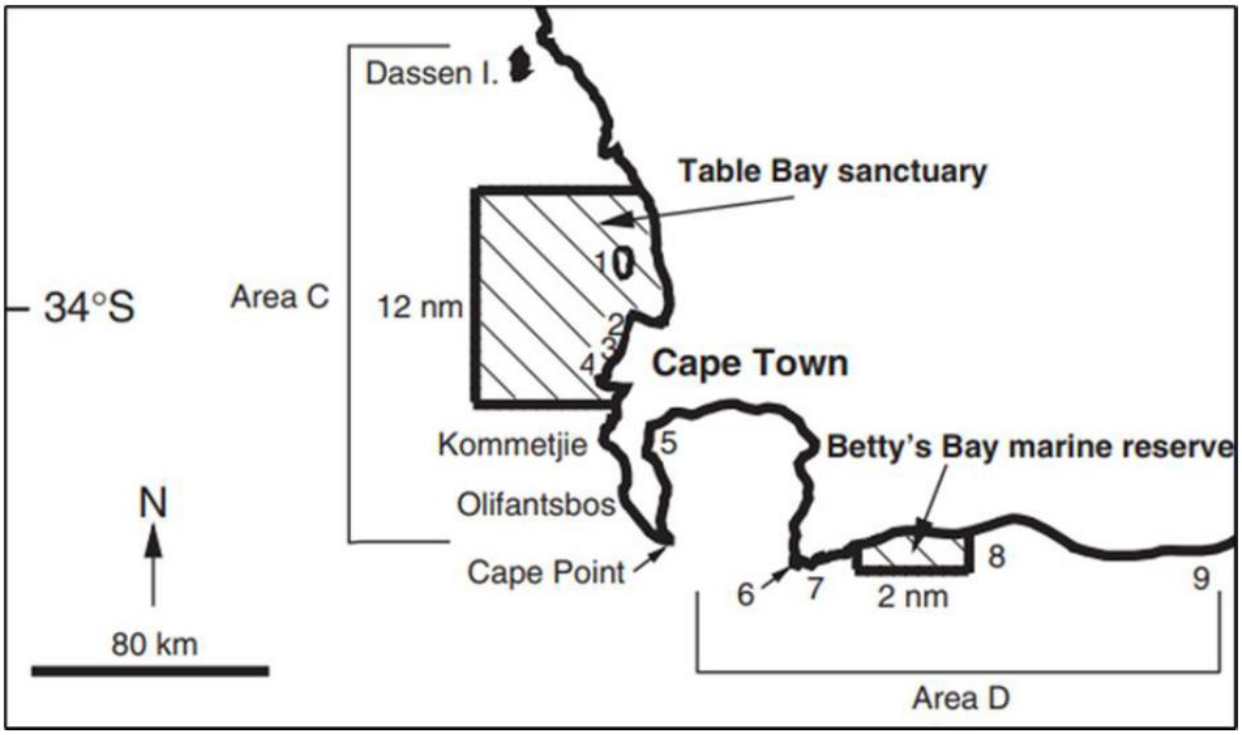


Figure 3-14: The extent of the Table Bay rock lobster sanctuary (Mayfield et al., 2005)

Ecosystem Threat Status

The Ecosystem Threat Status developed by the South African National Biodiversity Institute (SANBI, 2018) indicates how threatened ecosystems are, specifically the degree to which ecosystems are still intact or alternatively losing vital aspects of their structure, function, or composition (Harris et al., 2019; Wright et al., 2025).

Ecosystem threat types are categorised as "Critically Endangered", "Endangered", "Vulnerable", "Near Threatened" or "Least Concern", based on the proportion of the original extent of each ecosystem type that remains in good ecological condition relative to a series of biodiversity thresholds. The habitat threat status of the proposed area of development in Granger Bay is "Vulnerable" (Figure 3-15).

Critical Biodiversity Areas and Ecological Support Areas

Critical Biodiversity Area (CBA) assessment provides a spatial plan for the natural environment and is designed to inform planning and decision-making in support of sustainable development. CBA maps are developed using the principles of systematic biodiversity planning**. These maps comprise three categories of biodiversity priority areas, namely Protected Areas, CBAs (called "Biodiversity Conservation/Restoration Areas" in the Marine sector plan for the Biodiversity Sector 2024) and Ecological Support Areas (ESAs) ("Biodiversity Impact Management Zones"), which are jointly important for the persistence of a viable representative sample of all ecosystem types and species, as well as the long-term ecological functioning and connectivity of the landscape or seascape as a whole.

** SANBI 2017, Proposed Approach to Spatial Development and Management for South Africa's Marine Planning Areas 2019, and the Biodiversity Marine Sector Plan 2024).



Figure 3-15: Ecosystem Threat Status according to the National Biodiversity Assessment (Sink et al., 2019)

CBA Natural sites have natural/near-natural ecological conditions, with the management objective of maintaining the sites in that natural/near-natural state. CBA Restore sites are in a moderately modified or poorer ecological condition, with the management objective to improve ecological condition and, in the long term, restore these sites to a natural/near-natural state, or as close to that state as possible. As a minimum in CBA Restore sites, further deterioration in ecological condition must be avoided, and options for future restoration must be maintained.

The ESAs include all portions of ESAs that are not already within MPAs or CBAs, and a 5 km buffer area around all MPAs (where these areas are not already CBAs or ESAs). Within ESAs, negative impacts of human activities on key biodiversity features are managed and minimised to maintain the features in at least a functional, semi-natural state and/or to allow the area to improve in ecological condition. The proposed site overlaps with an ESA at the western edge (by the Oceana Power Boat Club), but otherwise falls entirely outside of any CBA delineated areas (Figure 3-16).

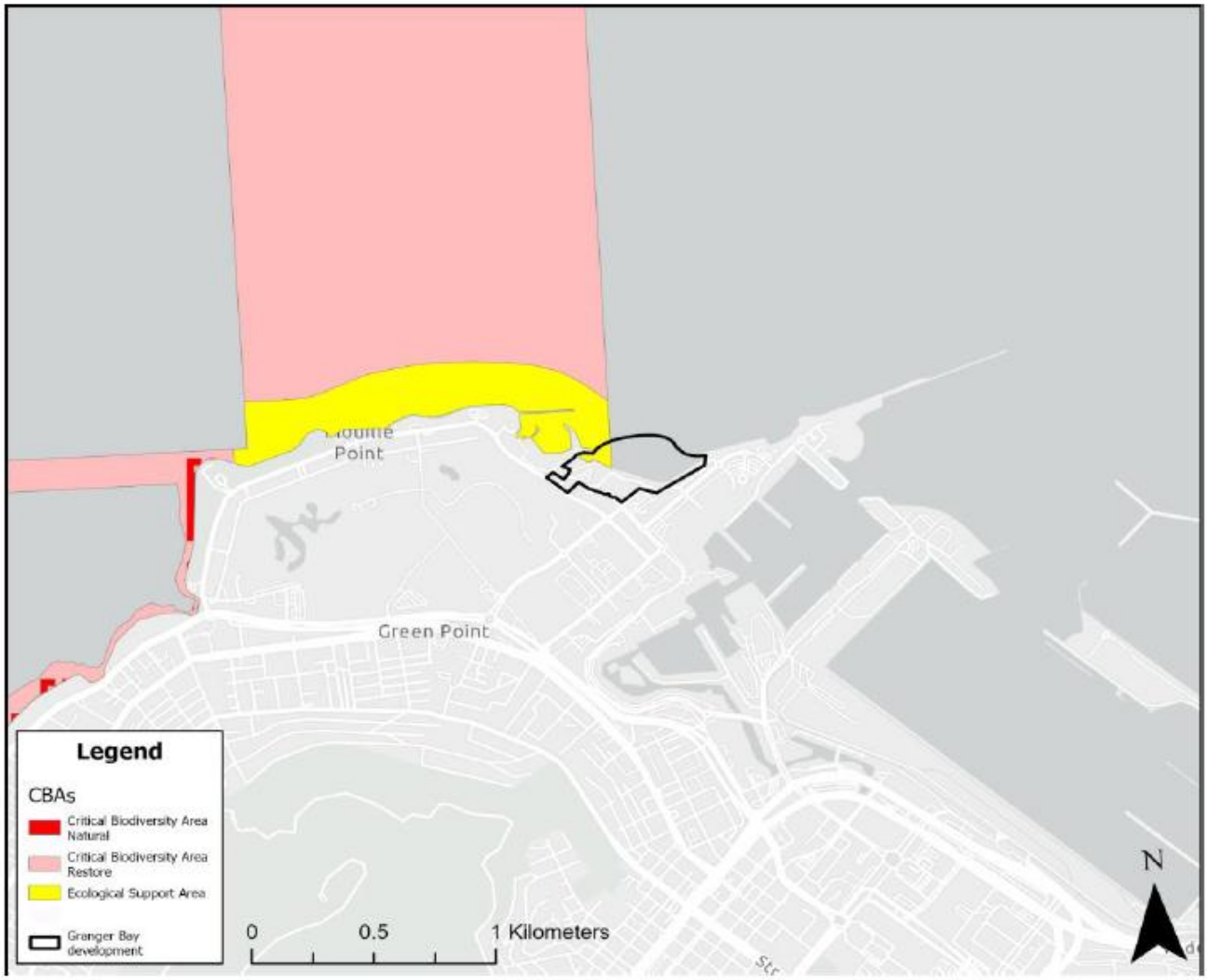


Figure 3-16: Critical Biodiversity Areas and Ecological Support Areas

3.5 Socio-Economic Environment

The DFFE National Screening Tool Report identified that a Socio-Economic Impact Assessment will be required based on the nature of the proposed development. As per these recommendations, Urban Econ prepared a Socio-Economic Impact Assessment report.

3.5.1 Socio-economic Profile of the Surrounding Wards

This site is locally significant from a socio-economic perspective. Using the 2011 census data, the site falls mostly within Ward 55, with a small portion in Ward 54, in Subcouncil 16 (Figure 3-17). Ward 55 contains Mouille Point, Three Anchor Bay, Green Point, Sea Point, and Fresnaye, and Ward 54 encompasses the suburbs of Foreshore, Woodstock, Salt River and Paarden Eiland. Adjacent to the proposed site, Ward 77 includes Bokaap, the City of Cape Town, Tamboerskloof, and Oranjezicht (Figure 3-17).



Figure 3-17: Ward map (2011 data)

Population

The population across Wards 54, 55, 57, and 77 totals over 161000 people, which indicates a dense local population in proximity to the proposed development. The combined household count across these wards exceeds 61000, highlighting a sizeable base for potential residential, retail, and hospitality demand (
Table 3-7).

Ward 55 has the highest population, 46072 people, with a relatively moderate household size of 3.0, suggesting a mix of family and non-family households. Ward 54, comprising higher-income suburbs like Sea Point and Fresnaye, has a smaller average household of 2.0 compared to Ward 55, which

may reflect single-person or dual-income households with fewer dependents. This is an attractive demographic for luxury residential and lifestyle offerings (Table 3-7).

Table 3-7: Population and household (2024) (Urban-Econ, 2025)

Indicator	Western Cape	City of Cape Town	Ward 54	Ward 55	Ward 57	Ward 77
Population	7 713 178	4 951 943	36 178	46 072	42 885	36 630
Households	2 149 543	1 400 243	17 762	15 285	13 590	14 857
Average Household Size	3.6	3.5	2.0	3.0	3.2	2.5

The highest percentage of the population is the economically active age group (15–64 years), ranging from 70.3% in Ward 55 to over 79% in Wards 57 and 77, which is notably higher than the provincial average of 70.6%. This suggests a strong labour pool and consumer base, thus reinforcing the economic potential of the area (Urban Econ, 2025).

Significantly, Ward 54 has a substantially higher proportion of elderly residents (21%) than the other wards and the provincial average, which may reflect its appeal to retirees due to its coastal amenities and upmarket housing. In contrast, Wards 54 and 77 have lower proportions of youth (8.2% and 8.8%, respectively), indicating limited numbers of dependent children (Urban Econ, 2025). These demographic patterns highlight a mature, economically engaged population with diverse lifestyle needs across the area (Figure 3-18).

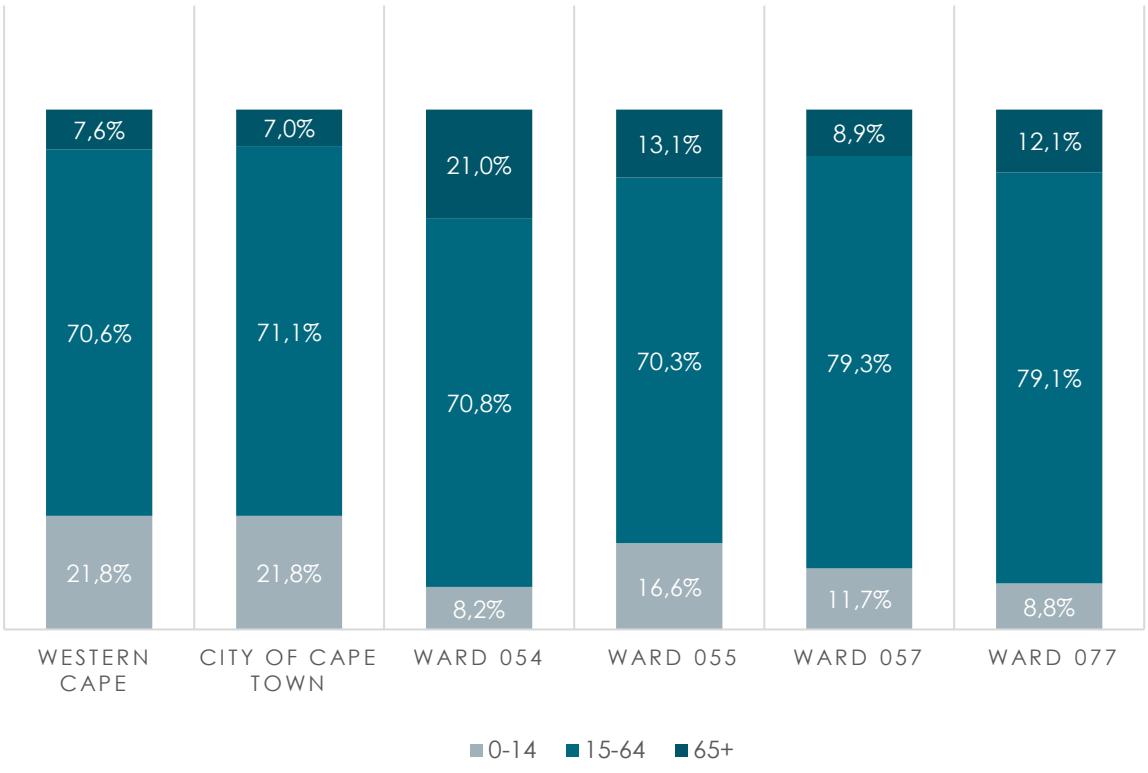


Figure 3-18: Age profiles across the wards (Urban Econ, 2025)

Education

The proportion of residents across all wards with no schooling is extremely low, well below the provincial and metropolitan averages. These statistics indicate broad access to basic education in these areas. The percentage of individuals who completed Grade 12 is also notably high in all wards, particularly in Ward 55 (42.8%) and Ward 57 (38.7%), suggesting a well-educated, employable population (Table 3-8; Urban Econ, 2025).

A key observation, however, is the high percentage of residents with higher education qualifications, 54.7% in Ward 54 and 61.7% in Ward 77, substantially exceeding the City of Cape Town average of 17.4% and the provincial average of 15.2%. This trend reflects the professional and affluent nature of these suburbs, which often attract highly skilled individuals and knowledge-based workers. Wards 55 and 57 also report strong levels of higher education at 27.1% and 42.9%, respectively, reinforcing the area's educated labour market (Table 3-8; Urban Econ, 2025).

Table 3-8: Education profile (Urban Econ, 2025)

Aspect	Western Cape (%)	City of Cape Town (%)	Ward 54 (%)	Ward 55 (%)	Ward 57 (%)	Ward 77 (%)
No Schooling	5.8	5.9	0.5	1.0	0.9	0.9
Some Primary Education	6.3	4.8	1.0	2.3	1.7	1.0
Completed Primary	3.9	3.2	0.7	1.7	1.4	0.9
Some High School	34.0	33.0	8.4	25.1	14.4	8.3
Grade 12	34.7	35.7	34.7	42.8	38.7	27.2
Higher	15.2	17.4	54.7	27.1	42.9	61.7

Employment

There is a significant difference between the provincial, municipal and ward-level contexts with regards to employment profiles. The Western Cape and the City of Cape Town report employment rates of 47.5% and 46.1%, respectively, with moderate unemployment rates of 13.3% and 15.1%, respectively. This suggests a relatively stable but still constrained labour market. The ward-level data conversely highlights distinct localised dynamics. Ward 54 stands out with the highest employment rate (48.7%) and the lowest unemployment rate (2.9%), despite having nearly half its population (48.3%) not economically active. This may reflect a more affluent or older demographic with reduced dependency on formal employment. Ward 55 displays a similar pattern, with moderate employment (44.2%), low unemployment (8.1%), and high levels of economic inactivity (47.7%).

Ward 57 presents a different profile, with the lowest employment rate (36.2%) and the highest share of economically inactive residents (58.2%). Although unemployment is relatively low at 5.5%, the limited labour force participation suggests structural barriers to employment, or a demographic skewed towards non-working-age groups. Ward 77 shows comparable trends, with 45.5% employed and only 3.3% unemployed, but more than half the population (51.2%) is not economically active. These figures indicate that while formal unemployment is not pronounced in some wards, economic

inactivity remains a key consideration in understanding the local labour market (Figure 3-19; Urban Econ, 2025).

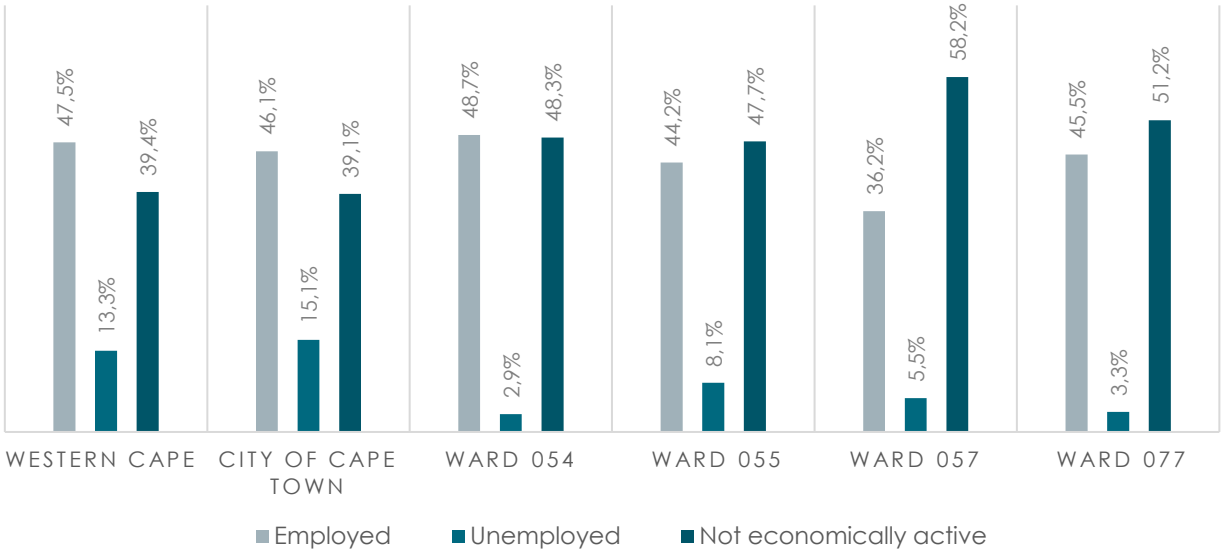


Figure 3-19: Employment profile (Urban Econ, 2025)

Skill level and employment sector

An analysis of the skills composition within the Western Cape and the City of Cape Town highlights a labour force that is predominantly semi-skilled. In the Western Cape, 44% of workers fall into the semi-skilled category, while in the City of Cape Town, this increases to 47.1%. Skilled workers make up 30% of the workforce in the province and 34% in the metro. This distribution suggests a regional economy that depends heavily on intermediate skills, likely reflective of dominant industries such as services, construction, and light manufacturing that demand practical, operational competencies (Figure 3-20; Urban Econ, 2025).

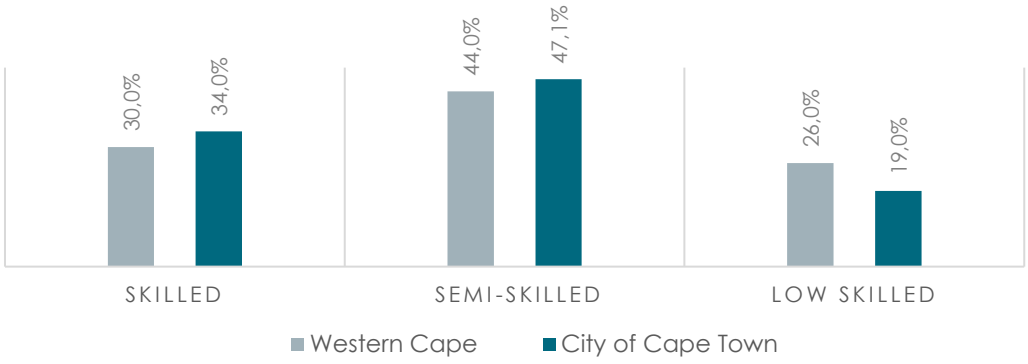


Figure 3-20: Provincial and metropolitan skills level (Urban Econ, 2025)

Across wards 55, 54. 57 and 77, the formal sector employment overwhelmingly dominates, with the formal employment ranging from 89.2% in Ward 55 to 94% in Ward 77, indicating a strong integration with Cape Town's structured economy. The informal sector, by contrast, remains marginal, comprising only 6–11% of employment across these wards, which suggests that most working residents are engaged in regulated, contract-based jobs, potentially with access to benefits and more stable income. This also reflects the urban character of the area, which is more likely to be serviced by formal businesses and institutions than by informal trading or casual labour markets (Figure 3-21; Urban Econ, 2025).

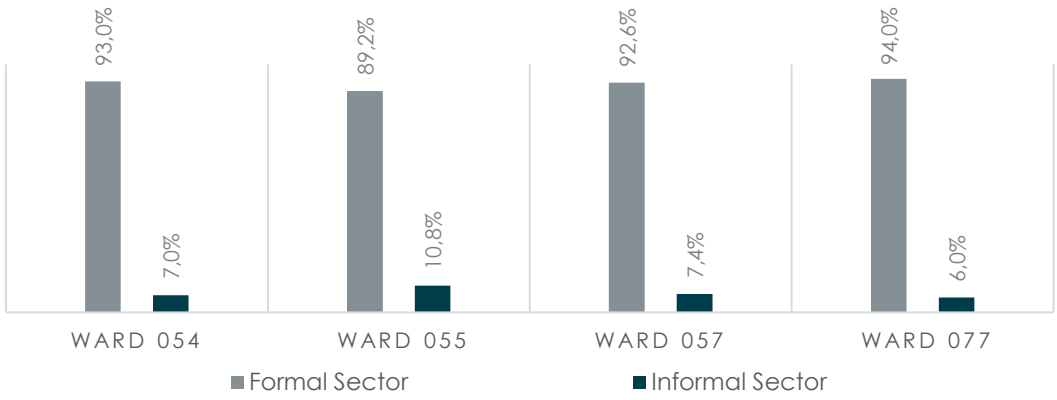


Figure 3-21: Percentage of formal and informal employment across the wards (Urban Econ, 2025)

Household income

Compared to the provincial and metropolitan averages, all four wards surrounding the development site show significantly lower proportions of low-income households and higher proportions of high-income households, with the exception of Ward 55, which shows a more balanced profile. This indicates that these wards are of considerable affluence, thus a strong concentration of wealth in coastal and inner-city suburbs (Table 3-9).

Table 3-9: Annual household income (Urban Econ, 2025)

Income Category	Western Cape	City of Cape Town	Ward 54	Ward 55	Ward 57	Ward 77
Low Income (R0- R71 977)	49.3%	47.1%	19.7%	30.4%	29.9%	17.5%
Medium Income (R71 978 – R575 819)	39.3%	39.3%	45.4%	49.8%	46.6%	46.1%
High Income (R575 820 – R4 606 551+)	11.4%	13.6%	34.9%	19.8%	23.5%	36.4%

Expenditure patterns

Household expenditure patterns provide insight into consumer behaviour and the types of goods and services most in demand. This informs the potential market opportunity for retail and service offerings in the area. Expenditure is typically divided into four broad categories:

- **Services** (e.g., transport, education, healthcare, banking, and telecommunications),
- **Non-durable goods** (e.g., food, beverages, fuel, and cleaning supplies),
- **Semi-durable goods** (e.g., clothing, footwear, household textiles), and
- **Durable goods** (e.g., appliances, furniture, vehicles).

Households in the City of Cape Town allocate the largest share of their expenditure to services, at 51.6%, slightly higher than the Western Cape average of 50.7%. This trend highlights the growing importance of service-oriented consumption in urban areas. Non-durable goods account for roughly one-third of household spending (32.4% in the City of Cape Town and 33.7% provincially), driven largely by the recurring need for essentials such as groceries and personal care items. Semi-durable goods, such as clothing and soft furnishings, make up a smaller portion of household spending at 7.1% across both geographic levels, while durable goods, higher-cost items like electronics, furniture, and vehicles, account for 8.9% in Cape Town and 8.5% in the Western Cape. These figures suggest

that although households are spending on long-term items, most expenditure is still geared towards ongoing service needs and everyday consumables (Urban Econ, 2025).

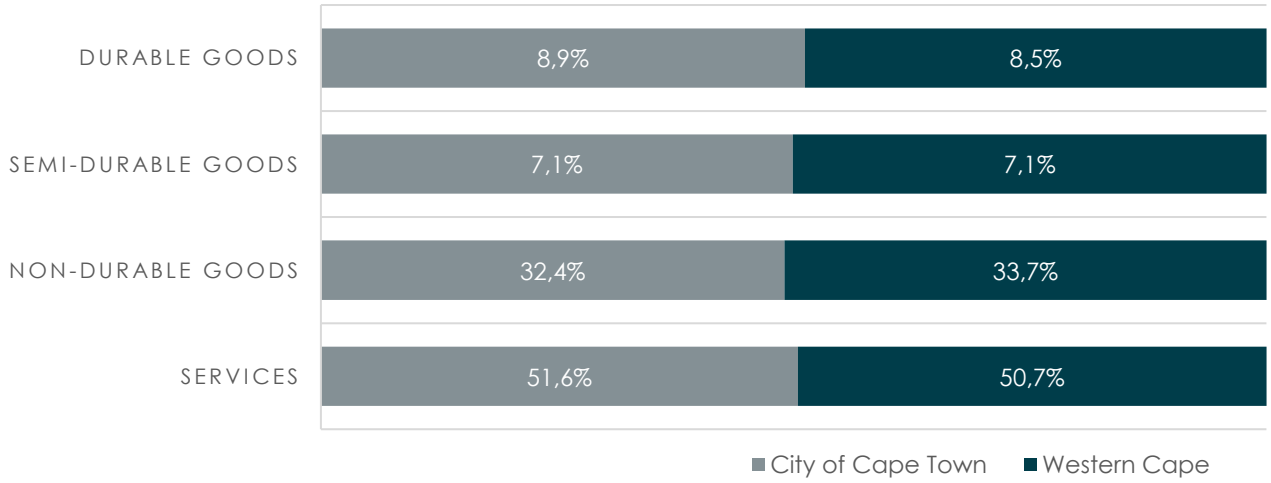


Figure 3-22: Final consumption expenditure (Urban Econ, 2025)

Assessment of the socioeconomic impacts of the proposal is set out in Chapter 6.

3.6 Heritage

The DFFE National Screening Tool Report identified that a Heritage Impact Assessment must be conducted based on the very high relative archaeological and cultural heritage theme sensitivity. A very high heritage sensitivity is due to the location of the site within 5km of a Grade I Heritage Site and 2km of a Grade II Heritage Site. In accordance with the National Screening Tool Report, a Heritage Impact Assessment, including archaeological (Appendix B7), visual (Appendix B8) and cultural heritage impact assessments, were compiled by Cindy Postlethwayt and attached as Appendix 6 to this EIA Report.

3.6.1 History of the Surrounding Area

The proposed site and surroundings have a long and significant history, with records dating back to before the 1600s. The Granger Bay Precinct is part of a stretch of coastal plain which once extended from Buitengracht to beyond Mouille Point, of which the Green Point Common represents the remaining part. Until the 19th century, the coastal plain was characterised by calcrete dunes, which were flattened during the late 19th and 20th centuries to make way for the Cape Town Harbour and related infrastructure. Fort Wynyard is located on the last surviving low dune. Beach Road, immediately to the south of the site, was located on the coastline, and land reclamation associated with Granger Bay Marina at the Water Club occurred during the 1980s and 1990s.

A brief history of the settlement and fortifications, development of the harbour and 20th century developments is summarised below (Figure 3-23).

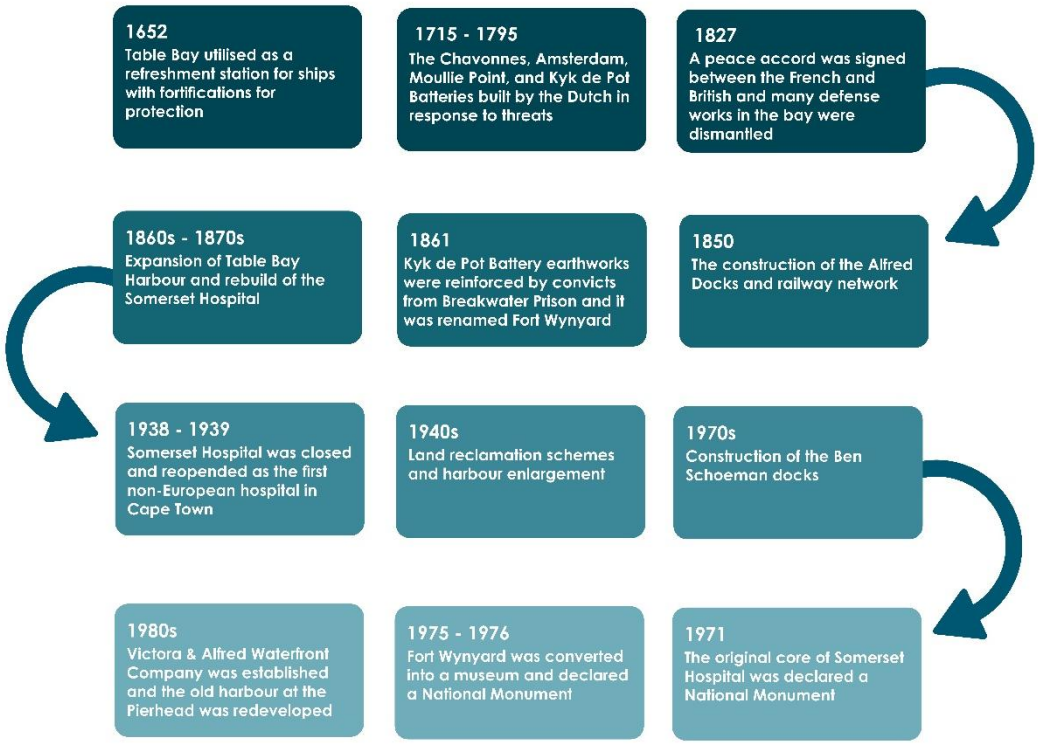


Figure 3-23: Overview of the site history (Cindy Postlethwayt, 2025)

Settlement and Site Fortifications in the Granger Bay area

- The area was seasonally inhabited by local Khoikhoi people who utilised the land as pastures for their cattle prior to European settlement.
- Portuguese explorers were the first Europeans to explore the region and settle in Table Bay in 1498. Although the bay was exposed and experienced unfavourable weather conditions, it was favoured due to the availability of freshwater.
- There is evidence that this small, protected bay was also used historically by a whale fishery, and the suggestion has been made that it may have been the site of Van Riebeeck's landing at the Cape – described in historic documents as somewhere on the "Lion's Tayle" - in 1652, although there is no hard evidence to support this.
- Table Bay became permanently settled in 1652 by the Dutch and was used by the VOC (Dutch East India Trading Company) ships as a refreshment station between Europe and the East. The Dutch protected the harbour with fortifications to protect against rival English and French trading companies during this period.
- In the 1700s, a number of batteries and defence lines were constructed along the coastline from Mouille Point to Fort Knokke (in the Foreshore area). These batteries were built to ensure the English and French could not occupy the Cape:
    - The Chavonnes Battery was built in 1715;
    - The Kijk in de Pot Battery (now known as Fort Wynyard) was built in 1781; and
    - The Amsterdam and Mouille Point Batteries were built in 1787.
- The English landed in Blouberg in 1795, which led to the Battle of Muizenberg by the British against the Dutch Colony.

- The Dutch handed over the Cape Colony to the British in 1802, and the British began upgrading the military defences.
- The English constructed a second powder magazine behind Kijk in de Pot Battery in 1812.
- The original Somerset Hospital was built in 1818 and rebuilt to house 100 patients in 1862.
- All defences were dismantled in 1827 following a peace accord with the French but were rearmed when the American Civil War broke out in 1861.
- The Anglo-Boer War broke out in 1899 and lasted until 1902. Table Bay and Cape Town were used as transit points for the transport of soldiers and prisoners. Troops were held where the Green Point Common is now located.

Harbour Development and Land Reclamation

- The Chavonne's Battery was demolished for the construction of the Alfred Docks in 1850.
- In the 1970s, Table Bay Harbour Board acquired an additional land strip between the Amsterdam Battery and the Somerset Hospital for harbour expansion.
- In the second half of the 19th century, historic execution grounds and associated burial grounds were also destroyed for harbour expansion.
- Extensive land reclamation schemes were implemented after the Second World War in 1945 to enlarge the harbour.

20th Century Development

- The Amsterdam Battery was demolished in 1905 to construct a railway line linking Sea Point to the Harbour and the City.
- The original Somerset Hospital was closed in 1938 and reopened in 1948 as the first non-European hospital in Cape Town. The hospital was declared a National Monument in 1971 and is now protected under the National Heritage Resources Act.
- The Ben Schoeman docks were constructed in the 1970s.
- The area adjacent to the Victoria Harbour Basin was redeveloped in the 1980s when the Victoria & Alfred Waterfront Company was established. The Pierhead area of the Waterfront, adjacent to the Victoria and Alfred Basins was also redeveloped during this time.

3.6.2 Heritage Resources

The NHRA gives a legal definition to the range and extent of what is considered to be South Africa's heritage resources. According to Section 2(xvi) of the Act, a heritage resource is "any place or object of cultural significance". This means the object or place has aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. Establishing and grading for heritage significance is based on the three-tier grading system used in the NHRA and HWC's "Grading Implications & Management of HR HWC Guidelines April 2016".

Visual and Landscape

The Granger Bay precinct site is located on a coastal platform, of which a section is reclaimed land, with the original coastline intersecting the middle of the site. The site is heavily disturbed and has no natural rock outcrops or other significant landscape features. The existing unprotected coastal embankment consists of untidy, random fill material.

The position of the site on the waterfront, wedged between the V&A Waterfront and Fort Wynyard, adds to its visual significance. Moreover, the view cone from Fort Wynyard with the 'Arc of Fire' across Table Bay adds to the visual importance of the site. The historic Fort forms part of an old sequence of military sites, with views to Signal Hill, Robben Island and Blouberg, all of which formed part of the defence of Table Bay.

It is important to note that there have been previous agreements between the South African Heritage Resources Agency (SAHRA) and the Cape Town City Council regarding the strategic views from the gun placements of Fort Wynyard. It was agreed that two viewing planes must be kept, namely the view of Robben Island and the view extending from Granger Bay to Table Bay. Therefore, height restrictions of 21.5msl (approximately 5 storeys) were put into place. Additional information regarding the proposed development design is in Chapter 2.



Photograph 3-13: View of Signal Hill and the Cape Town DHL Stadium from the Oceana Power Boat Club

Heritage resources in the immediate vicinity of the site

There are resources of provincial and local heritage significance surrounding the site (Figure 3-24). Due to the site's locality, it forms a part of the broader cultural landscape and falls within the proposed Heritage Protection Overlay, as seen in Figure 3-24. These sites of heritage significance include:

- Fort Wynyard,
- The New Somerset Hospital and its forecourt,
- The building complex (including the City Hospital) along Portswood Road,
- The Green Point Track, and
- The Victoria and Alfred Basins and associated maritime buildings (including the Convict Station and Breakwater Prison).

3.6.2.1.1 Fort Wynyard

Fort Wynyard was declared a National Monument in 1976 and is acknowledged as a Provincial Heritage site in terms of the provisions of the NHR Act. The heritage significance is linked to the fort's strategic defence position at the entrance of Table Bay as well as its ability to cover the approach from Robben Island and the opposite shoreline (Blouberg Shoreline) in its "Arc of Fire". The fort also has a high international and national significance in terms of its military technology, a high national educational significance, high national and local architectural significance, high local landmark status and high group value.

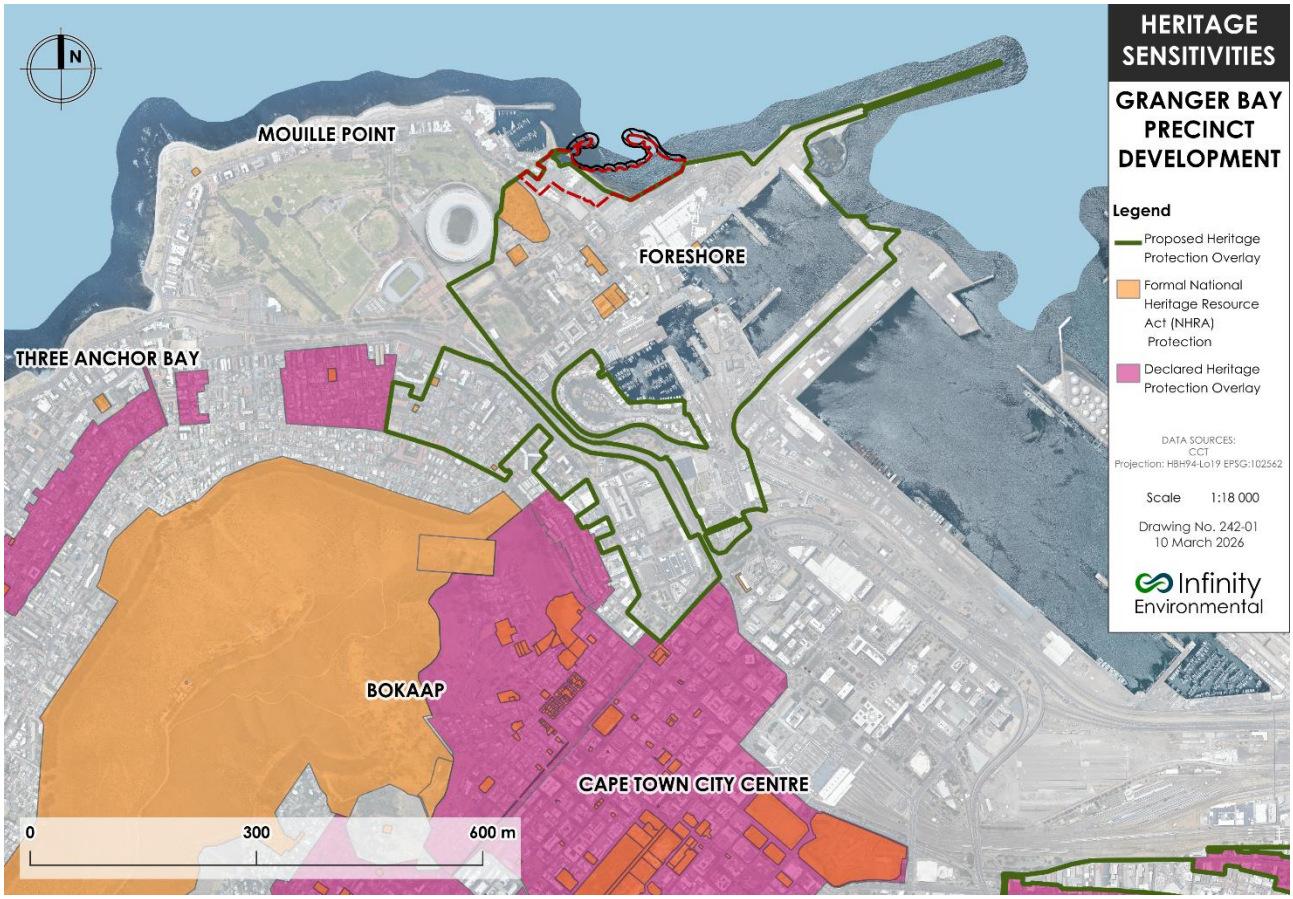


Figure 3-24: Heritage sensitivities surrounding the site

Heritage Resources on the site

There are a few temporary structures on the degraded site, and it therefore has low heritage significance. Built environmental heritage resources may be graded according to significance (Table 3-10).

Table 3-10: Summary of the guide to grading of built environmental resources (HWC, 2016)

Grading	Description	Heritage Significance
I	Exceptional resources of national significance	Highest Significance
II	Special resources in the context of a province/region	Exceptionally High Significance
IIIA	Rare resources that are significant in the context of the area	High Significance
IIIB	Significance in the context of a townscape, neighbourhood, settlement or community	Medium Significance
IIIC	Significance in the context of a streetscape or direct neighbourhood	Low Significance

3.6.2.1.2 Spatial and Visual Contact with the Water's Edge

The primary character component of any significance present is the spatial and visual contact with the water's edge **(IIIA)**. In respect of the public access to the water's edge, the coastal pedestrian walkway and boardwalk spans almost the entire length of the Granger Bay Precinct at the V&A Waterfront on its northern coastal edge.

3.6.2.1.3 The Slipway and Access

The slipway, currently managed by the Oceana Power Boat Club (OPBC)(as seen in Photograph 3-1), has a high social and historical significance as it is located on the site of a fishery that has its roots in the 18th century. There is some speculation that this fishery may have been a whaling station. Throughout the 19th century the site is indicated on maps as a fishery or fish canning company.

For an extensive and continuous period, the slipway has operated as a launching site for small boats related to recreational craft, as well as, now to a lesser extent, subsistence and commercial fishermen. The slipway is one of the very few safe entry points into Table Bay for small boats and for the general public. Many of the fishermen who originally used the slipway belonged to communities who were forcibly removed from Cape Town (District 6, Sea Point) during the Apartheid years and had a long-standing tradition of using the facility to launch their boats. **Access to the slipway is regarded as being of high significance to these users (IIIC).**

3.6.3 Maritime and Terrestrial Archaeological Resources

Terrestrial Archaeology

A review of archaeological reports from the V&A Waterfront conducted by Gribble (2024) found no indication that pre-colonial archaeological material has been encountered during archaeological activities within the V&A Waterfront. Gribble (2025) states that it is almost certain that middens and pre-colonial sites were present along this stretch of the Table Bay coast: its rocky shore, with a predictable, high-protein food supply, offering an attractive focus for human use and settlement (Gribble, 2025).

More than 350 years of increasingly intensive colonial and industrial utilisation and transformation of the area are probably responsible for destroying much of this archaeological record. However, Orton et al. (2020) indicate that "the scattered Late Stone Age (LSA) burials and LSA occupational debris from Green Point show that some data can be obtained from heavily built-up areas" and that "while LSA sites are likely to be the most common new finds, older sites certainly lie buried beneath cover sands and calcrete strata". This statement suggests that pre-colonial archaeological material could survive under the later landfill along the former coastline within the Granger Bay Land Reclamation project site. Given the rarity of such survivals of pre-colonial material in the developed urban context of this part of the city, the archaeological significance and value of any such sites or materials is likely to be high.

Submerged Prehistory Archaeology

There is archaeological evidence for a prehistoric human presence in Table Bay, for example, in 1995 and 1996, during the excavation of two Dutch East India Company shipwrecks, divers recovered three Earlier Stone Age (ESA) handaxes from the seabed under the wrecks. The stone tools were found at a depth of 7-8 m below mean sea level from an ancient submerged and infilled river channel (Gribble, 2025).

During periods of lower sea level, human ancestors are likely to have moved out onto the exposed floor of Table Bay and left evidence of their use of that landscape. Landscape features and formerly sub-aerial sediments that have survived subsequent marine transgressions are likely present in Table Bay; thus, there is potential to find pre-colonial archaeological sites and artefacts, and to recover paleoenvironmental data from submerged, seabed contexts within Table Bay (Gribble, 2025).

Maritime Archaeology

The historical anchorage in Table Bay has the largest concentration of historical wrecks in South African waters (more than 400). The large number of wrecks is likely due to a combination of factors, including the Western Cape's winter storms, the long history of Table Bay as a shipping hub, and indifferent harbour facilities for most of that period (Burman, 1976; Turner, 1988; Gribble, 2025).

The north-western portion of Table Bay, the location of the proposed development, was relatively protected from the winter north-westerlies, and shipwrecks were less common in this area. Nevertheless, more than 20 shipwrecks or shipping losses occurred in the area between the Green and Mouille Points between the 16th and 19th centuries (Burman, 1976; Turner, 1988; Durden, 1992; shipwreck database[††]). Some of these wrecks can confidently be placed outside the study area because their remains have been found on the seabed and their positions are thus accurately known; however, the Archaeological Impact Assessment suggests that consideration should be given to the possibility that at least some of the vessels listed as having been lost within the project area, making their exact location unknown (Gribble, 2025).

Table 3-11: List of historical wrecks recorded in the vicinity of the project area (Gribble, 2025)

Ship name	Date	Place of wreckage
Apollo	1823	Ran ashore at Green Point close to the Moulin Battery
Arabia	1858	Struck rocks and wrecked at Mouille Point
Athens	1865	Wrecked on the rocks between Green Point and Mouille Point
Catherine Jamieson	1840	Ran aground on rocks at Mouille Point
Chieftan	1848	Wrecked on Mouille Point
Dido	1853	Wrecked on rocks at Mouille Point
Eliza	1863	Ran aground on rocks at Mouille Point
Ellen Maria	1868	Wrecked on the rocks at Green Point
Enchantress	1849	Wrecked between Green Point and Mouillle Point
Frances	1840	Ran ashore at Mouille Point
Helen / "Glass Wreck"	1842	Ran ashore at Mouille Point
Highfields	1902	Sank after collision with the Kaiser just outside the Breakwater
Hoop	1784	Ran ashore close to Mouille Point
Juliana	1839	Ran ashore at Mouille Point
Mary Stewart	1842	Went ashore between the lighthouses
Miner	1857	Capsized off Granger Bay
Mulgrave Castle	1825	Driven onshore and wrecked close to Green Point lighthouse
Olga R	1885	Ran aground on the reef at the point
Palmer	1840	Ran aground on rocks between the lighthouse and Moulin Battery

[††] Maintained by TerraMare Archaeology

Ship name	Date	Place of wreckage
Piscatatqua	1865	Ran ashore opposite the wreck of the Athens
Prince Rupert	1841	Ran ashore at Mouille Point
Reno	1883	Ran aground at Mouille Point
Royal William	1837	Struck rocks at Green Point near Lazar's Fisheries
Sheperd	1874	Foundered on north side of Breakwater
Sincapore	1832	Ran ashore at Mouille Point
Swea	1852	Ran ashore near the "old" lighthouse
Udeny Castle	1840	Ran ashore at Mouille Point
Wasp	1863	Capsized outside the Breakwater

3.7 Summary of Key Receiving Environment Aspects Associated with the Site

3.7.1 Marine biodiversity

Construction will result in the direct loss of artificial rocky shore habitat, specifically that of the Granger Bay dolosse, and adjacent subtidal sandy and reef habitat (NBA 2018 Cape Mixed Shore ecosystem). Soft sediment habitats will be lost, and pelagic open water habitat will be disturbed by the development during both construction and operation.

Specific marine ecosystems are not mapped Figure 3-25 as the entire development footprint falls within marine ecosystems. It is accepted that the loss of habitat cannot be avoided within the development footprint. Mitigation measures to manage the impact of activities associated with the development is included in this EMPr.

3.7.2 Heritage resources

Heritage resources make up the rest of the sensitivities for the site. None of these sensitivities constitute No-Go areas, but they have either been considered as design informants where specific avoidance or compliance is necessary; or where impacts on resources are unavoidable, mitigation measures have been included to minimise and manage the negative impacts of the proposed development on these resources.

Visual sensitivities

The Arc of Fire: the historic arc of fire from a gun emplacement at Fort Wynyard, where no buildings may exceed a height of 21.5m in the arc, and buildings of 10 and 16 floors are acceptable outside of the arc (Figure 3-25) is a heritage sensitivity that has informed the design of the proposed development in regard to heights and massing.

Water's edge view: The primary character component of any significance present is the spatial and visual contact with the water's edge (IIIA). The 30-metre-wide view corridor from the main gun emplacements to the coastline needs to be kept open to ensure a visual linkage between Table Bay and Fort Wynyard.

Archaeological sensitivities

Pre-colonial archaeological material could survive under the later landfill along the former coastline within the Granger Bay Land Reclamation project site. Given the rarity of such survivals of pre-colonial material in the developed urban context of this part of the city, the archaeological significance and value of any such sites or materials is likely to be high. There is also potential to find pre-colonial

archaeological sites and artefacts, and to recover paleoenvironmental data from submerged, seabed contexts within Table Bay. Consideration should be given to the possibility that at least some shipwrecked vessels are located within the project area, making their exact location unknown. It is possible that unmarked burials could be present in the same areas of the site that may be archaeologically sensitive.

Social sensitivity

Many of the fishermen who use the slipway belong to communities who were forcibly removed from Cape Town (District 6, Sea Point) during the Apartheid years and have a long-standing tradition of using the facility to launch their boats. Access to the slipway is regarded as being of high significance to these fishermen (IIIC heritage grading).

A new slipway is planned to be constructed to replace the existing slipway, but the transition between the operation of the current and the new slipway needs to be carefully managed, and access for vessels to the ocean needs to be maintained.

3.7.3 Noise environment

*The unique nature of the proposed reclamation presents the potential for significant noise disturbance as part of the marine construction activities. Consequently, nearby apartment buildings within the Waterclub Marina have been identified as sensitive noise receptors. Despite this, the noise impact assessment (**Appendix B10**) confirms that the adjacent Waterclub Marina is already located within an elevated urban waterfront acoustic environment influenced by existing road traffic, recreational marine activities, harbour operations, helicopter movements and general Waterfront activity. The predicted construction noise impacts are superimposed upon an existing daytime ambient noise climate that is already relatively high.*

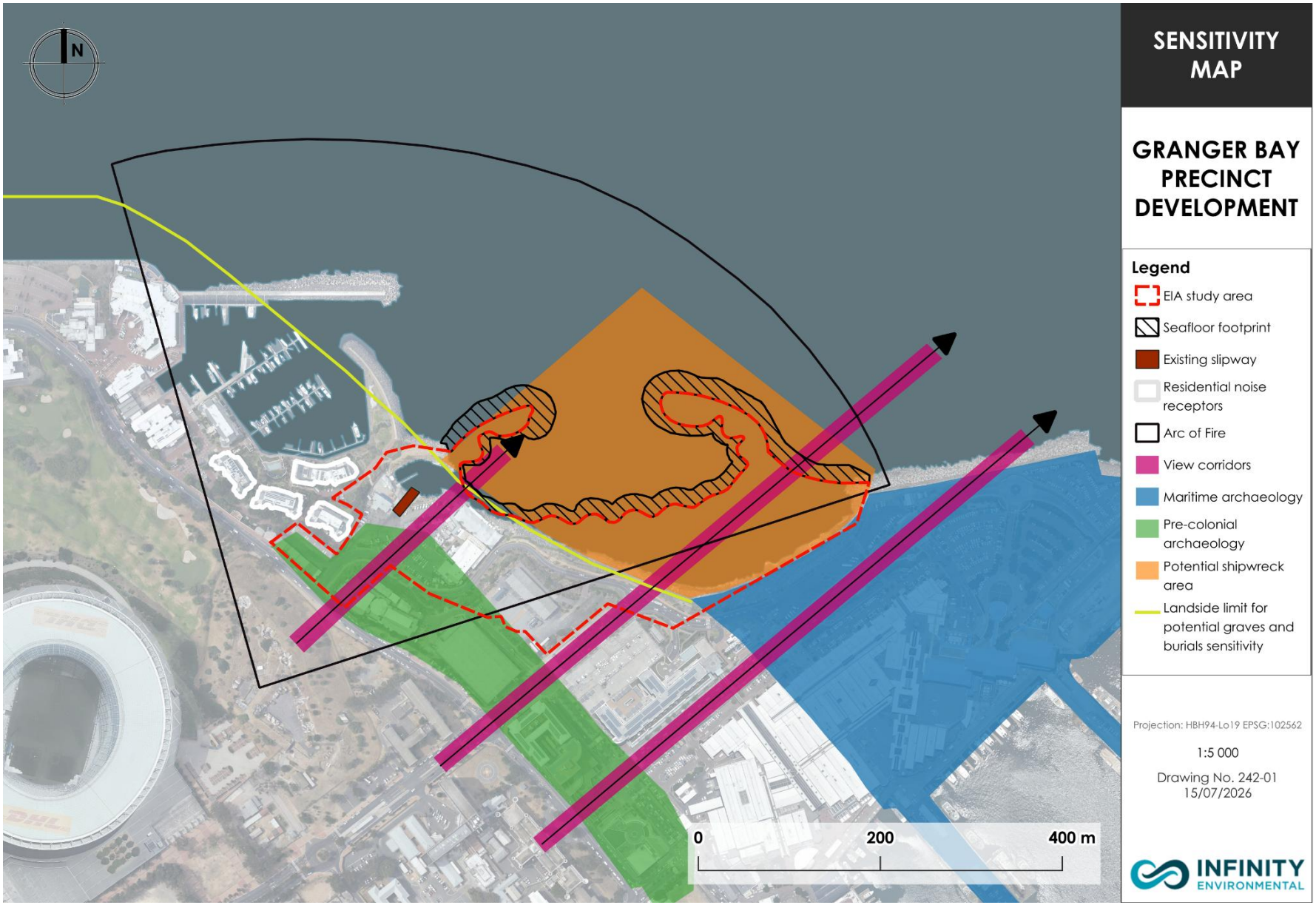


Figure 3-25: Proposed development footprint superimposed on terrestrial and marine sensitivities

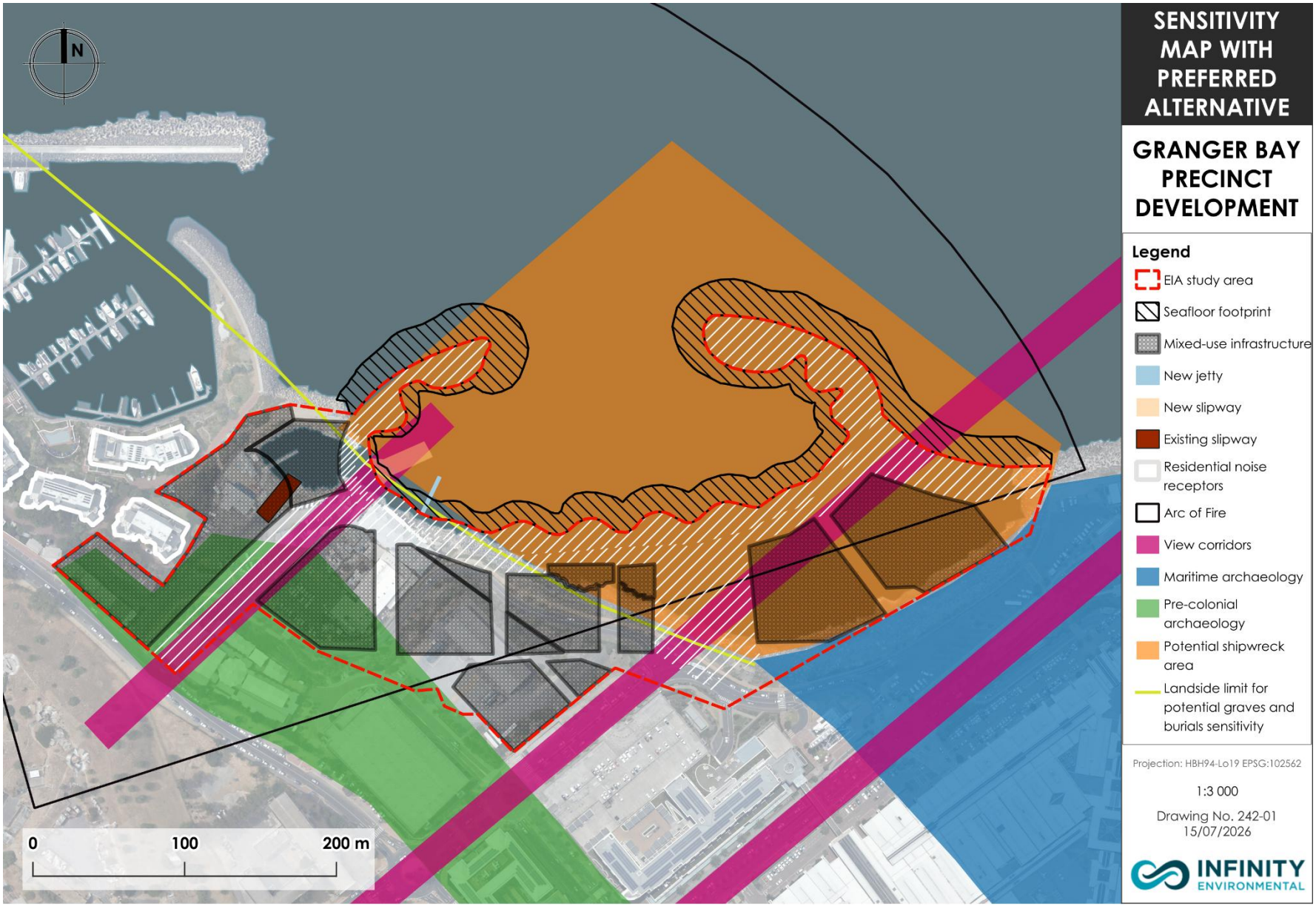


Figure 3-26: Proposed development infrastructure superimposed on terrestrial and marine sensitivities

CHAPTER 4
LEGISLATION AND POLICY

July 2026

Amended Environmental Impact Assessment Report

INFINITY ENVIRONMENTAL

4 LEGISLATION AND POLICY

This chapter sets out the legislative context and guidelines for environmental assessment as applied to the proposed expansion of the Granger Bay Precinct, Erf 173712 and Erf 177853, at the V&A Waterfront. It also outlines applicable planning, policy and guideline considerations which have informed the project proposal and which are being considered in this Scoping and EIA process. Existing approvals are described as well as other developments in the V&A Waterfront, which contextualise the site. Further analysis of the compatibility of the development proposals with applicable planning and policy is provided in Chapter 5.

4.1 Overview

The acts, regulations, by-laws, frameworks, policies and strategies relevant to the proposed development are listed below. The applicability and implications of these for the proposed development are described in this chapter.

Acts

- National Environmental Management Act – NEMA (107 of 1998), as amended
- National Environmental Management: Integrated Coastal Management Act – NEM: ICMA (Act 24 of 2008)
- National Environmental Management: Biodiversity Act – NEM: BA (Act 10 of 2004)
- National Environmental Management: Waste Act (Act 59 of 2008)
- Marine Living Resources Act – MLRA (Act 18 of 1998), as amended
- Marine Spatial Planning Act – MSPA (Act 16 of 2018)
- Sea Birds and Seals Protection Act (Act 46 of 1973)
- National Heritage Resources Act – NHRA (Act 25 of 1999)
- Legal Succession to the South African Transport Services Act – SATS (Act 9 of 1989)
- Spatial Planning and Land Use Management Act – SPLUMA (Act 16 of 2013)

Regulations

- Environmental Impact Assessment Regulations (2014) as amended (GNR 326 of 2017)
- NEM: BA Alien and Invasive Species Regulations (2014)
- NEM: BA Threatened or Protected Species Regulations (2007)
- Provincial Noise Control Regulations (PN 200 of 2013)

By-laws

- Municipal Planning By-law, 2015
- Stormwater Management By-law, 2005
- Environmental Health By-law, 2003
- Coastal By-law, 2020
- Integrated Waste Management By-law, 2009
- Recreational Water-use By-law, 2018
- Streets, Public Places and Prevention of Noise Nuisance By-law, 2007
- Traffic By-law, 2021

Planning Frameworks

- Western Cape Spatial Development Framework (2014)
- City of Cape Town Spatial Development Framework (2023)
- City of Cape Town Local Municipality Integrated Development Plan (2022 – 2027)
- City of Cape Town Comprehensive Integrated Transport Plan (2023 – 2028)
- Transit Oriented Development Strategic Framework (2016)
- Table Bay District Spatial Development Framework (2023)
- National Coastal and Marine Spatial Biodiversity Plan (2022)
- Draft Marine Biodiversity Sector Plan (2024)

Policies and Strategies

- Biodiversity Management Plan for the African Penguin
- City of Cape Town's Climate Change Strategy (2021)
- City of Cape Town Management of Urban Stormwater Impacts Policy (2009)
- Environmental Strategy for the City of Cape Town (2017)
- Integrated Coastal Management Policy of the City of Cape Town (2014)

Various guidelines have been and will be applied in the EIA phase, including those issued by DEA&DP in 2013 regarding public participation, alternatives and need and desirability.

4.2 Constitution of the Republic of South Africa, 1996

The environmental right enshrined in section 24 of the Constitution of South Africa's Bill of Rights states that:

Everyone has the right –

(a) To an environment that is not harmful to their health or well-being; and
(b) To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that
(i) prevent pollution and ecological degradation;
(ii) promote conservation; and
(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

Section 24 recognises the integral importance of environmental protection and sustainability, while placing the needs of people at the forefront. It gives every citizen the right to live in a healthy environment and places an obligation on the government to act as a custodian, fostering sustainable development while safeguarding the wellbeing of both current and future generations. Section 24 also has significant implications for environmental remediation. The emphasis on the need for sustainable development (i.e., development that meets the needs of the present without compromising the ability of future generations to meet their own needs) considers the environment's long-term health and restoration and ensures that it can continue to provide ecological services and benefits to future generations. Section 24 mandates the government to take proactive measures to protect and restore the environment, as well as to create legislation to secure those goals. The key pieces of South African legislation that are applicable to the environmental impacts of the proposed development, with specific reference to the marine environment, are presented below.

4.3 National Environmental Management Act and EIA Regulations

4.3.1 National Environmental Management Act (Act 107 of 1998)

The National Environmental Management Act (NEMA, Act 107 of 1998) is the overarching framework for environmental law and management. NEMA makes provision for the identification and assessment of activities that are potentially detrimental to the environment, and which require authorisation from the relevant authorities based on the findings of an environmental assessment. These provisions are intended to give effect to the general objective of integrated environmental management and to integrate and facilitate environmental impact management with development activities, in line with sustainable development objectives.

4.3.2 Environmental Impact Assessment Regulations (2014) as amended

The National Environmental Management Act (107 of 1998) as amended, and the Environmental Impact Assessment Regulations (GNR 982 of 2014) as amended by GNR 326 of 2017, govern the process of applying for environmental authorisation for certain developments. Lists of activities which require environmental authorisation (EA) are published in three listing notices (GNR 983 to 985of 2014, as amended by GNR 324, 325, and 327 of April 2017). Provision in the EIA Regulations is made for two forms of assessment: Basic Assessment and Scoping and EIA.

The EIA Regulations specify that:

- Activities identified in Listing Notice 1 (GNR 327 of 2017) require a Basic Assessment
- Activities identified in Listing Notice 2 (GNR 325 of 2017) require a Scoping and EIA
- Activities identified in Listing Notice 3 (GNR 324 of 2017) require a Basic Assessment

The listed activities associated with the proposed development are set out below:

Table 4-1: Listed activities associated with the proposed development

Listed Activity	Description	Applicability
Listing Notice 1 (GN 327 of 2017)		
9	The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water— (i) with an internal diameter of 0.36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where— (a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	The proposed development includes the extension of an existing 1.5m diameter stormwater drain located in Granger Bay to the new revetment, and additional stormwater outfalls through the revetment.
15	The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding— (i) the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (ii) the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (iii) the development of temporary structures within the beach zone where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (iv) activities listed in activity 14 in Listing Notice 2 of 2014, in which case that activity applies.	The proposed development will be approximately 11.76 ha, including the land reclamation of approximately 3.8 ha of land from Table Bay, which includes 0.8ha for the breakwaters. The land reclamation will be protected by a new permanent rock revetment and two breakwaters forming a new protected bay 3 ha in extent. The west breakwater will extend approximately 90 metres into Table Bay, and the east approximately 140 metres. A revetment connecting the two breakwaters will be approximately 540 metres long. This proposed mixed-use development will be larger than 50 square meters partially within coastal public property.
17	Development – (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of— (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or	The proposed development includes land reclamation of approximately 3.8 ha in Table Bay including coastal protection infrastructure. The land reclamation will include infrastructure of more than 50 square meters and a new permanent rock revetment. This development will take place partially in the sea, partially within the littoral active zone and partially within

Listed Activity	Description	Applicability
	(e) infrastructure or structures with a development footprint of 50 square metres or more — but excluding— (aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (dd) where such development occurs within an urban area.	a distance of 100 metres of the highwater mark.
19A	Infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from— (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; but excluding where such infilling, depositing, dredging, excavation, removal or moving— (f) will occur behind a development setback; (g) is for maintenance purposes undertaken in accordance with a maintenance management plan; (h) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (i) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies	The proposed development includes land reclamation of approximately 3.8 ha of land from Table Bay. More than 5 cubic meters of material will be infilled or deposited onto the seashore, in the littoral active zone and in the sea.
Listing Notice 2 (GN 325 of 2017)		
14	The development and related operation of— (i) an anchored platform; or (iii) any other structure or infrastructure — on, below or along the sea bed; excluding — (a) development of facilities, infrastructure or structures for aquaculture purposes; or (b) the development of temporary structures or infrastructure where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared.	The proposed development includes land reclamation of 3.8 ha from Table Bay for mixed-use development and includes the placement of a new permanent rock revetment and two breakwaters. This reclamation and infrastructure will be on and below the seabed.
23	The reclamation of an island or parts of the sea.	The proposed development centres on the reclamation of

Listed Activity	Description	Applicability
		land from Table Bay, to accommodate new coastal public amenities, including a new bay for recreational activities and new mixed-use development. The land reclamation will be protected by a permanent rock revetment and two breakwaters which will form a new protected bay.
26	Development— (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever is the greater; in respect of — (a) facilities associated with the arrival and departure of vessels and the handling of cargo; (b) piers; (c) inter- and sub-tidal structures for entrapment of sand; (d) breakwater structures; (e) coastal marinas; (f) coastal harbours or ports; (g) tunnels; or (h) underwater channels; but excluding the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour.	This proposed development includes the reclamation of 3.8 ha of land from Table Bay. The land reclamation includes, and will be protected by, a new permanent rock revetment and two breakwaters forming a new protected bay 3 hectares in extent. The west breakwater will extend approximately 90 metres into Table Bay, and the east approximately 140 metres. A revetment connecting the two breakwaters will be approximately 540 metres long.

Where activities in Listing Notice 2 are proposed, a Scoping and EIA process must be undertaken. Because an activity from Listing Notice 2 is proposed, this application will follow a Scoping and EIA process in terms of the 2014 EIA Regulations, as amended.

4.3.3 Competent Authority for the EA application process

Section 24C of NEMA outlines the requirements for an environmental authorisation application to be considered by the national competent authority. These requirements determine if a project has national or international significance. If none of the requirements of this section are met, then the competent authority is not the national authority. Since the proposed project does not trigger any of the requirements listed in section 24C of NEMA, the competent authority is the provincial authority: the **Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)**. In terms of legal requirements, the Scoping Report must satisfy the requirements of Appendix 2 of the amended 2017 NEMA EIA Regulations (as noted in Regulation 21 (3) of the GN R326). Table 1-2 in Chapter 1 outlines how the legislated requirements are addressed in the various chapters of this EIA Report.

4.3.4 Integrated Environmental Management

Chapter 5 of NEMA establishes a suite of environmental management tools designed to ensure the integrated environmental management of activities. In accordance with this chapter, activities that have the potential to impact on— (a) the environment; (b) socio- economic conditions; and (c) the cultural heritage, need to be identified and must be considered, investigated and assessed prior to their implementation and reported to the Organ of State charged by law with authorising, permitting, or otherwise allowing the implementation of such an activity. Due to the proposed development, including the reclamation of land from the sea, there are various factors identified in section 63 of the ICMA that need to be considered. This section states that where an environmental authorisation in terms of Chapter 5 of the National Environmental Management Act is required for coastal activities, the competent authority (in this case – DEA&DP) must take into account various specified factors over and above the standard considerations. These include consistency with the purpose of coastal public property and coastal access, socioeconomic impacts, impacts of coastal processes on the activity and vice versa, whether the activity is by its nature required to be located in the coastal environment, and whether public services will be provided by the activity.

4.3.5 Screening Tool Report

The Minister of Environment, Forestry and Fisheries in July 2019 gave notice that a national web-based environmental screening tool must be used in the submission of applications for environmental authorisation (GN 960 of 2019). A report generated from the screening tool is accordingly included as **Appendix K** of this Scoping Report. The outputs of this tool are further discussed in the Site Sensitivity Verification Report (**Appendix L**) and Chapter 3 of this report.

4.3.6 NEMA Principles

NEMA sets out principles which must inform all environmental management, including environmental assessment. The principles of environmental management in section 2 of NEMA, together with the manner in which they have been or will be taken into account, are detailed below:

(2) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.

The need and desirability of the project are considered in Chapter 5 of this report. The project is intended to provide retail, recreational and restaurant spaces. New public amenities will include the new bay, providing sheltered waters for boating, kayaking, and swimming. Land-based amenities will include a coastal public walkway, a slipway, a fixed quayside, a landscaped promenade, tidal pools, pedestrian paths and open areas.

(3) Development must be socially, environmentally and economically sustainable

Social, environmental and economic sustainability of the proposed development are assessed in this EIA report. Chapter 3 of this report outlines the status quo, while Chapter 6 sets out the assessed impacts, their significance ratings, and proposed mitigation measures.

(4) (a) Sustainable development requires the consideration of all relevant factors, including the following:

(i) that the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

As far as possible, the disturbance of ecosystems and loss of biological diversity will be avoided in the proposed development. Marine and oceanographic scoping studies were undertaken to inform the proposed development design, and the impacts on ecosystems and biological diversity are comprehensively assessed in Chapter 6 of this report.

(ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

Potential pollution and degradation of the environment is assessed in Chapter 6 of this EIA and minimised or remedied as far as possible. Mitigation measures to avoid, minimise and mitigate such impacts are set out in Chapter 6 of this report.

(iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;

The cultural heritage resources associated with the site are described in Chapter 3 of this report. Due to the anticipated impacts on heritage resources, a Heritage Impact Assessment (HIA) in terms of section 38(8) of the National Heritage Resources Act (Act 25 of 1999) (NHRA) has been recommended in the notification of intent to develop submitted to the heritage resources authority. The HIA, inclusive of a Visual Impact Assessment (VIA) and Marine Archaeology Impact Assessment, are published with this EIA Report.

(iv) that waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner;

The Environmental Management Programme (EMPr) for the proposed development and land reclamation has been compiled and incorporates measures for the responsible management of waste.

(v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;

The use of non-renewable resources are considered in the EIA process, and efficiency measures proposed where possible. The V&A Waterfront has an existing desalination plant that currently has capacity to supply up to 3.3 megalitres of potable water, and expansion to these operations will be considered to increase future potable water supply. Alternative potable water supply can reduce demand on the municipal infrastructure.

(vi) that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;

The use and exploitation of renewable resources and ecosystems is considered and assessed in this EIA process, and it is confirmed that their integrity is not jeopardised.

(vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions;

The precautionary principle of environmental management has been applied in the identification of impacts discussed in Chapter 6.

(viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

The identification, assessment and mitigation of impacts is detailed in Chapter 6 of this report.

(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.

The consideration of alternatives is outlined in Chapter 4, and the assessment of impacts to determine the best practicable environmental option is the focus of the assessment phase of this EIA. The need and desirability of the proposed development are outlined in Chapter 5 which includes how the socio-economic impacts resulting from the development are likely to impact on peoples' environmental rights. The potential adverse environmental impacts will be further considered and assessed during the EIA phase, at which point the distribution of adverse effects and associated environmental justice concerns will be considered.

(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing must be pursued, and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.

Equitable access to environmental resources, benefits and services are discussed in Chapters 4, 5 and 6 of this EIA Report.

(e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.

An Environmental Management Programme for both the construction and post-construction phases of the proposed development will ensure that responsibility for environmental health consequences vests in the appropriate persons for the duration of the development life cycle.

(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.

The Scoping phase provided opportunities for participation in the environmental governance process, and further opportunities are provided during the EIA phase. Details of the promotion of participation by all interested and affected parties are provided in the Public Participation Process Report (PPPR) submitted to DEA&DP in Chapter 7 of this report. The Comments and Responses Report is attached as **Appendix M**.

(g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.

A pre-application public participation process provided an opportunity for participation in the identification and assessment of environmental issues raised by all I&APs, in addition to the scientific and technical knowledge provided by specialists. Details of the public participation process are outlined in Chapter 7 of this report.

(h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.

The potential impacts on community wellbeing are considered where relevant during the EIA.

(i) The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.

The impact assessment of the social, economic and environmental impacts is detailed in Chapter 6 of this report.

(j) The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.

The Environmental Management Programme developed for the proposed development during the EIA phase incorporates measures as applicable.

(k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.

Public engagement and access to the Scoping Report and EIA Report, and future revisions will be provided via various methods outlined in Chapter 7.

(l) There must be intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment.

The national, provincial, and local policy contexts are outlined in Chapter 2 of this report. Consultation with Organs of State will form part of the public participation process, and is further detailed in Chapter 7 of this EIA Report.

(m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.

The consultation with authorities that forms part of the public participation process is anticipated to enable conflict resolution.

(n) Global and international responsibilities relating to the environment must be discharged in the national interest.

Global and international responsibilities are given effect in South African law regarding biodiversity and environmental management, which is the basis on which this Scoping and EIA Process is conducted.

(o) The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest, and the environment must be protected as the people's

The need and desirability of the proposed development are described in Chapter 5 of this report, and the competent authority's role in the EIA is to consider the public interest in deciding on the application.

(p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.

An Environmental Management Programme for both the construction and post-construction phases of the proposed development will ensure that responsibility for environmental consequences vests in the appropriate persons for the duration of the development life cycle.

(q) The vital role of women and youth in environmental management and development must be recognised, and their full participation therein must be promoted.

This Scoping and EIA process provides opportunities for participation in the identification and assessment of environmental issues by all I&APs, including women and youth. Details of the promotion of participation by all interested and affected parties are provided in Chapter 7.

(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems, require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

Sensitive ecosystems relevant to the proposed development include the coastal shores from which land reclamation is proposed. Marine, oceanographic and climate change specialists have been appointed to assess the anticipated impacts of the proposed development on the coastal

ecosystem and coastal processes. The Environmental Management Programme includes specific management measures applicable to the ecosystems and species identified by the specialists to be at risk as a result of the proposed development.

4.3.7 Previous Environmental Authorisation in terms of NEMA

An Environmental Authorisation was granted in 2018 to the V&A Waterfront by the Department of Environmental Affairs and Development Planning for the development of a dolos revetment, reclamation of land in the sea and associated mixed-use development on Erf 173712, Granger Bay Precinct, V&A Waterfront, Cape Town (reference 16/3/1/2/A7/4/3058/12, dated 13 April 2018).

The proposed development (as per the applicant's preferred alternative) consisted of two main components:

- Mixed-use (primarily residential with some retail and commercial use) development of Erf 173712, remainder of Erf 149294, Cape Town (also referred to as the Granger Bay precinct, located in the V&A Waterfront).
- Construction of a permanent dolos revetment and associated land reclamation.

The development and expansion of the dolos revetment and reclamation of land in the sea entailed the following aspects:

The existing temporary rock revetment was to be upgraded and replaced with a permanent dolos revetment extending approximately 310 metres from the existing dolos revetment (which ends at the Breakwater Boulevard) in a straight line across Granger Bay towards the existing embankment, which marks the coastal edge of Granger Bay. The existing embankment in front of the Grand Café & Beach Restaurant was to be replaced with rock revetment extending approximately 160m. About 2.4 hectares of land in the sea were to be reclaimed, requiring an estimated 189 340m³ of fill material.

A coastal sea park and associated infrastructure were to be developed and provide continuous public access from Beach Road to and along the coast for approximately 750m, of which about 300m would be within the Granger Bay Precinct. This included extending the existing coastal walkway along the reclaimed land and associated public amenities.

Access for private vehicles was to be gained from Beach Road and Granger Bay Boulevard Extension. The existing Haul Road was to be demolished and replaced by a link between Granger Bay Boulevard Extension and Breakwater Boulevard. This link road was to be developed over a portion of the reclaimed land, providing access to the development.

The 2018 Scheme has not been implemented, and the V&A Waterfront has instead proposed a new design for this area, which is the subject of the current application and this Scoping Report. The new proposal (described below) provides for a greater degree of public coastal access and infrastructure.

4.4 National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008)

The National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008) aims to establish a system of integrated coastal and estuarine management in South Africa, including norms, standards and policies, in order to promote the conservation of the coastal environment, and

maintain the natural attributes of coastal landscapes and seascapes, and to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable. The ICMA also seeks to control inappropriate development of the coastal environment and other adverse effects on the coastal environment to give effect to South Africa's international obligations in relation to coastal matters and to provide for matters connected therewith.

The proposed development includes the reclamation of land from the sea; therefore, section 7C of the ICMA, which addresses the reclamation of land for purposes other than state infrastructure, is applicable. According to section 7C of the ICMA:

> (1) An application for reclamation for purposes other than the development of state infrastructure as contemplated in section 7B will only be considered in exceptional circumstances which are not contrary to the purpose of coastal public property as set out in section 7A.
>
> (2) An application for reclamation in terms of this section must be accompanied by –
> (a) details of how the land will be developed and its use;
> (b) an assessment of whether there is any alternative land available and why such land cannot be used;
> (c) information on whether the land and structures will be accessible to the public;
> (d) information on whether the development is in the interests of the whole community;
> (e) detailed information on how the development will be funded; and
> (f) any other relevant information.

The Socio-Economic Impact Assessment (Appendix B2) discusses how the proposed development aligns with the ICMA. The proposed development has high socio-economic potential due to the location of the site in close proximity to the City centre, various tourist attractions and the coast. Some of the specific sections of the ICMA and how they align with the proposal are listed below:

- **Section 2 refers to the objectives of integrated coastal management:** The project is expected to support economic development by contributing to job creation, tourism growth, and access to coastal opportunities while simultaneously incorporating environmental considerations as demonstrated by the consultation with various marine specialists (see Appendix B2-B5).
- **Section 13 refers to the protection of coastal public property:** Public access to coastal areas is a key design consideration of the proposed development. The proposal includes the construction of a sheltered bay to be used recreationally with pools, beach area and walkways enhancing the accessibility and inclusivity of the development.
- **Section 56 refers to environmental authorisation:** The project is subject to a Scoping and Environmental Impact Assessment process, ensuring the identification and mitigation of impacts on coastal resources and ecosystem services that support the local communities and the regional economy. The identification of impacts and mitigation measures are included in the impact assessments complied by various specialists – these can be found in Appendix B.
- **Section 58 refers to the promotion of socio-economic development:** The proposed development is expected to facilitate employment, support local businesses, and enhance the economic value of the V&A Waterfront precinct. The potential improvement of the socio-economic conditions through sustainable coastal use aligns with the objectives of the ICMA.

The proposed development has high socio-economic potential in terms of increased public access to the coast, tourism, and associated economic return which supports the local and regional economy. The intention of the proposal is to construct an environmentally responsible development that aligns with the principles of the ICMA as well as other environmental legislation and policy, as discussed throughout this chapter, while also maximising the potential positive socio-economic benefits.

Section 1.11 in Chapter 1 outlines the alignment of the application for the Minister's pre-approval in terms of section 7C of ICMA with this Scoping and EIA.

4.4.1 Purpose of Coastal Public Property

Section 7A of the ICMA sets out the purpose of coastal public property, a relevant consideration in the decisions of the Minister in respect of the reclamation application, as well as the DEA&DP in respect of the application for environmental authorisation. The proposed development has therefore been considered against each of the objectives in Section 7A(a)–(d), as set out below. Section 7A states that the purposes of coastal public property are to:

(a) improve public access to the seashore;
(b) protect sensitive coastal ecosystems;
(c) secure the natural functioning of dynamic coastal processes;
(d) protect people, property and economic activities from risks arising from dynamic coastal processes, including the risk of sealevel rise; and
(e) facilitate the achievement of any of the objects of the Act.

Section 7A(a): To improve public access to the seashore

The proposed development has been designed to maintain and enhance public access to the coastline. The layout includes publicly accessible promenades, walkways and recreational coastal facilities that provide continuous, safe and lawful access to the coastal edge. Although the V&A Waterfront company is a private entity, it has created a significantly enhanced public environment which includes 5km of public access to the water's edge – an improvement on the situation prior to development, in which this area was inaccessible for the public. The Granger Bay Precinct is the final portion of the V&A Waterfront Holdings owned property that is still largely undeveloped. As a result, this portion of the city is poorly connected from the development at the V&A Waterfront and the rest of Green Point. Parking areas and vacant sites do not enhance access to the coast and public usage. The project, of which the reclamation areas form an integral part, will provide significantly improved access for the Green Point /V&A Waterfront /CBD pedestrian network through a series of public walkways and public spaces. No restriction of public access to coastal public property is proposed, and access arrangements will be managed to comply with Section 13 of the ICMA. The proposal therefore supports access to coastal public property, consistent with Section 7A(a).

Section 7A(b): To protect sensitive coastal ecosystems

The proposal is subject to a full Scoping and Environmental Impact Assessment process in terms of NEMA, including specialist studies addressing marine ecology, coastal processes and biodiversity (Appendices B3-B5). The findings of these studies will inform the final design and management measures to avoid, minimise or mitigate impacts on coastal and marine systems, thereby protecting the natural environment of coastal public property.

Section 7A(c): To secure the natural functioning of dynamic coastal processes
Specialist coastal process and marine studies form part of the EIA process and assess the potential effects of the proposed reclamation on wave climate, sediment transport and coastal hydrodynamics. The design of the reclamation and associated coastal protection measures are informed by these studies to ensure that the natural functioning of dynamic coastal processes is not compromised.

Section 7A(d): To protect people, property and economic activities from risks arising from dynamic coastal processes, including the risk of sea level rise
The proposed development incorporates consideration of long-term coastal risks, including sea level rise, storm surge and coastal erosion. The design is informed by coastal engineering assessments to ensure that the development does not increase risk to people, property or economic activities, and contributes to improved resilience of the surrounding coastal environment. As a replacement for the existing unprotected embankment and gravel beach, a permanent rock revetment and two breakwaters will be established to ensure shoreline protection, as well as providing shelter for portions of the site from storm action. These improvements are necessary as the existing gravel beach and unprotected embankment are not adequate to provide the necessary shore protection for long-term development and infrastructure development of the site, as well as protection of some existing buildings. The proposed breakwaters will address these issues by making the coastline more resilient to extreme weather conditions.

Section 7A(e): To facilitate the achievement of any of the objects of the Act
The proposed development seeks to support the broader objects of the ICMA by balancing socio-economic development with environmental , promoting sustainable use of the coastal zone, and ensuring that development within coastal public property is subject to appropriate planning, assessment and regulatory oversight.

This alignment will be further assessed and refined through the EIA process, and through the Minister's consideration of pre-approval in terms of Section 7C.

4.5 Marine Living Resources Act (Act 18 of 1998, as amended)

The Marine Living Resources Act 18 of 1998 provides for the conservation of the marine ecosystem, the long-term sustainable utilisation of marine living resources and the orderly access to exploitation, utilisation and protection of certain marine living resources; and for these purposes to provide for the exercise of control over marine living resources in a fair and equitable manner to the benefit of all the citizens of South Africa. This Act also deals with compliance with international law and agreements. The Act was amended in 2014 (Marine Living Resources Amendment Act 5 of 2014, commencement date 8 March 2016).

The proposed site does not lie in a Marine Protected Area, but of relevance to the proposed development is the location of, and regulations associated with, the West Coast Rock Lobster sanctuary ("Closed Area"), which was declared under section 77 of the MLRA. This declaration means that fishing for rock lobsters is prohibited in the area between Table Bay and Llandudno (Table Bay Sanctuary), including the proposed site and land to be reclaimed. The potential impact of the development on these lobsters and the associated recommended mitigation measures are outlined in the Marine Impact Assessment report and Chapter 6.

According to this Act, no whales or dolphins may be harassed, killed or fished. In the Regulations for the Management of Boat-Based Whale Watching and Protection of Turtles as part of the Marine Living Resources Act of 1998, the definition of "harassment" is given as "behaviour or conduct that threatens, disturbs or torments cetaceans". The impacts on cetaceans are assessed by a Marine Mammal specialist, and the findings will be incorporated into the EIA and EMPr.

4.6 Marine Spatial Planning Act (Act 16 of 2018)

The Act is built on the National Framework for Marine Spatial Planning (MSP) in South Africa (2017), which provides guidance on MSP on a national level. The objectives of the Marine Spatial Planning Act (Act 16 of 2018) include the development and implementation of a shared marine spatial planning system to manage a changing environment that can be accessed by all sectors and users of the ocean, the conservation of the ocean for present and future generation and the facilitation of responsible use of the ocean. Where there is a conflict between existing uses, developing uses or activities, maximum coexistence of uses or activities should be preferred wherever possible, but where such coexistence is not possible, the principles in section 5(1) must be applied to resolve such conflict, i.e., a precautionary approach must be applied. The principles and their applicability to the proposed development are listed below.

(a) the sustainable use, growth and management of the ocean and its resources;

Various specialists have been and will be consulted throughout the Scoping and EIA process to ensure minimal negative impacts on the ocean environment and its resources, and that the development and associated activities prioritise sustainable use of the ocean and its resources.

(b) the identification of economic opportunities which contribute to the development of the ocean economy;

The proposed development directly aligns with this principle as the creation of a coastal sea park area and mixed-use along the coastline is expected to increase tourism and contribute to the ocean economy.

(c) the promotion of collaboration and responsible use of the ocean through consultation and cooperation;

Responsible use of the ocean in relation to the proposed development is to be ensured through consultation with Marine and Oceanographic Specialists and their collaborative compilation of impact assessments. Additionally, the input from the relevant Organs of State, conservation bodies and public through the public participation process will promote responsible use of the ocean environment. The mitigation measures and recommendations from the specialists and Organs of State are to be implemented and monitored, is described in the EIA phase with the compilation of an EMPr.

(d) the advancement of an ecosystem and earth system approach to ocean management which focuses on maintaining ecosystem structure and functioning within a marine area;

The impacts of the proposed development on the marine ecosystem structure and functioning have been assessed in the Marine and Oceanographic Impact Assessments (**Appendices B3 – B5**), which include various mitigation measures and recommendations to protect, maintain or enhance the functionality of the surrounding marine area.

(e) adaptive management which takes into account the dynamics of the ecosystems and the evolution of knowledge and of activities in South African waters;

The dynamics of the surrounding marine environment have been considered in the Oceanographic Impact Assessment and Marine Impact Assessment. The adaptive management of the surrounding marine ecosystem, in terms of preventing, minimising and remediating negative impacts are provided for in the Environmental Management Programme, which is a living document, to be updated throughout the construction of the proposed development, should it be authorised.

(f) the principle of spatial resilience and flexibility;

Spatial resilience and flexibility associated with the proposed development includes the predicted improved coastal resilience and protection from consequences of climate change (storm surges, sea level rise and associated coastal erosion). A Climate Change Impact Assessment provides further insight into the resilience of the proposed development relative to anticipated consequences of climate change, and guide design adaptations where required.

(g) the promotion of equity between and transformation of sectors;

The proposed private development promotes improved public use of the site by increasing accessibility to the coast (i.e. the proposed public coastal sea park and walkway).

(h) the reliance on the best available scientific information;

Various specialists with the relevant and appropriate qualifications have been consulted during the Scoping and EIA process. Their assessments include reviews of existing literature and research combined with their own site investigations and data gathering, ensuring that their recommendations are based on the best available scientific information. These studies are also updated throughout the Scoping and EIA process to address concerns raised by the public and decision-makers.

(i) the equitable resolution of conflict scenarios, including the implementation of trade-offs, relocations and other available resolutions;

Although the proposed development will have some negative impacts on the marine environment, the socio-economic benefits of the proposal are expected to be abundant. The implementable recommendations and mitigation measures to be determined by the specialists in the final Impact Assessments will be combined and used to minimise negative impacts and resolve conflicting scenarios.

(j) the principle of efficiency, whereby decision-making procedures are designed to minimise negative financial, social, economic or environmental impacts;

These impacts are assessed and negative impacts identified with their associated recommended mitigation measures included in the specialists' reports and Impact Assessment Chapter in this EIA.

(k) the principle of good administration coherent and holistic planning and management;

Various planning frameworks and environmental management guidelines will be considered, and the input from various stakeholders, Organs of State and the public will be incorporated into the Scoping and EIA process.

(l) South Africa's international obligations and cross-border cooperation.

These include the following principles, applicable under South Africa's jurisdiction, and relevant to the proposed development:

- The sustainable use of marine resources,

- Maintaining marine biodiversity,
- Undertake research and monitoring,
- Sustainable development, and to
- Address pollution of the ocean from land, sea and air.

Building on the Marine Spatial Planning Act (Act No. 16 of 2018) and the National Framework for Marine Spatial Planning in South Africa, the Department of Forestry, Fisheries and the Environment (DFFE) published The Approach to Spatial Management System for South Africa's Marine Planning Areas in 2019. The document translates the overarching vision and high-level directions for developing South Africa's ocean space into a spatial management system that applies to all Marine Planning Areas. The Marine Planning Areas encompass the area between the high-water mark (landmass boundary line) and the exclusive economic zone as seaward boundary. South Africa's marine space is divided into four smaller bio-geographic areas, and the proposed site falls within the Western Marine Planning area, therefore the four goals outlined in this document should be considered in relation to the proposed development. These goals include 1) Unlocking the ocean economy, 2) Engaging with the ocean, 3) Ensuring healthy marine ecosystems and 4) Contributing to good ocean governance. The 2022 National Coastal and Marine Spatial Biodiversity Plan, associated CBA Map and sea-use guidelines provide the basis for the biodiversity sector's input into the multi-sectoral MSP process that is undertaken according to the Marine Spatial Planning Act. The plan provides input into environmental impact assessments, integrated coastal management, restoration initiatives and formal protection of the ocean. The draft Biodiversity Sector Plan aims to specify the overall national spatial development objectives and priorities of the sector for the coming two decades. It specifies the spatial requirements of the sector for South Africa's mainland EEZ marine area. Including proposed biodiversity zones and their spatial regulations.

4.7 National Environmental Management: Biodiversity Act (Act 10 of 2004)

The National Environmental Management: Biodiversity Act 10 of 2004 (NEM: BA) provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant protection; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith. The NEM:BA includes management and control measures for alien and invasive species and provides for the protection of threatened or protected ecosystems and species. Regulations have been published in terms of section 97(1) of the NEM:BA, which are applicable to the proposed development. These include the NEM:BA Alien and Invasive Species Regulations and the Threatened or Protected Marine Species Regulations as described below.

4.7.1 The NEM:BA Alien and Invasive Species Regulations (2014)

The National Environmental Management: Biodiversity Act Alien and Invasive Species Regulations aim to restrict the spread of listed invasive species through transfer, release, discharging or disposing in waterways or oceans, catch and release, introduction to offshore islands, and release into a discrete catchment system. It requires that a risk assessment be carried out for listed species to ascertain the likelihood of naturalisation and vector pathways. The Marine Impact Assessment (**Appendix B3**) lists the potential alien and invasive species that could be found in the site area. These include ascidians (sea squirts), anemones, bryozoans, a sponge, segmented worms, crustaceans (amphipods, crabs, and barnacles), and molluscs (mussels, nudibranch, and a gastropod). The control of marine invasive species is not the direct responsibility of coastal landowners.

4.7.2 The NEM:BA Threatened or Protected Species Regulations (2007)

The National Environmental Management: Biodiversity Act Threatened or Protected Species Regulations provides a national approach to sustainable use of species that were threatened with extinction, or in need of national protection, while ensuring the survival of the species in the wild, thus ensuring the conservation of the species. NEM: BA enables the Minister to prohibit activities that may impact the survival of species in the wild, and to regulate activities to ensure sustainable use of indigenous biological resources. There are likely to be threatened or protected species present in the site area, including the Near Threatened Heaviside dolphin identified in the Marine Impact Assessment (**Appendix B3**), which recommends some initial mitigation measures to reduce the anticipated impact on marine mammals, including the Heaviside dolphins. All of the appropriate management and mitigation measures will be further identified in the final Marine Impact Assessment, to included in the EIA report and EMPr.

In term of these regulations, no person may carry out a restricted activity (which includes "harassment", defined as behaviour or conduct that "threatens, disturbs or torments a live specimen of a listed threatened or protected marine species, and includes— … (b) in the case of a whale, approaching a whale with a vessel or aircraft closer than 300 metres…") unless the Minister has exempted him/her from carrying out of such restricted activity in terms of section 57(4) of the Act. As such, no vessel or aircraft may approach closer than 300 m to any whale, and a vessel should move to a minimum distance of 300 m from any whale if a whale surfaces closer than 300 m from a vessel or aircraft.

Three species of whale and three species of dolphin are known to occur in Table Bay at various times of the year, all of which may come within a few kilometres of, or into, Granger Bay. In Table Bay and the rest of the West Coast, the large baleen whales are typically more prevalent in spring and summer months, in contrast to the standard paradigm of winter presence that is typical of the 'South Coast' of South Africa (i.e., east of Cape Point, especially areas like Hermanus and De Hoop).

The presence of endangered seabird colonies was a factor supporting the recent (2019) proclamation of the Robben Island MPA that protects breeding and feeding areas for these endangered seabirds. The waters around Robben Island and Mouille Point are prime areas for viewing seabirds, including penguins, cormorants, and oystercatchers. Although there is no overlap with any of the proposed infrastructure with any MPAs, the site is in close proximity to the Robben Island MPA. The proclamation of this MPA was also aimed at facilitating species management and supporting stock recovery of over-exploited species such as West Coast rock lobster *Jasus lalandi* and abalone *Haliotis midae* stocks. The entirety of Table Bay falls within a rock lobster sanctuary, and no West Coast rock lobster (*J. lalandi*) may be caught, either recreationally or commercially. The relevant regulations state "(13) No person shall, in any manner or for any purpose, engage in fishing, collecting or disturbing west coast rock lobster within…The area within 12 nautical miles seaward of the high-water mark between, as northern limit, a line (270° true bearing) drawn through a beacon marked MB1 and situated at Melkbos Point, and as southern limit, a line (270° true bearing) drawn from a beacon marked HD1 at "Die Josie" situated near Chapman's Peak south of Hout Bay" (Figure 3-14).

4.7.3 Biodiversity Management Plan for the African Penguin (2013)

The Biodiversity Management Plan for the African Penguin was developed and gazetted in terms of section 43 of NEM:BA, as the African Penguin is listed as "Protected" in terms of section 56 of NEM: BA. One of this plan's objectives is to "minimise and/or mitigate the impact of catastrophic events

and other key pressures and risks on African Penguins". Another objective is to "minimise the impact of pollution (oil, hazardous and noxious substances) on African Penguins through preventing spills, ensuring adequate preparedness, appropriate response and monitoring success." The plan provides for actions which should take place to achieve these objectives. This species is widespread along the coast of southern Africa, including the waters around Robben Island and Mouille Point; therefore, this plan and its objectives need to be considered in the EIA process.

In March 2025, a court settlement was reached between the Southern African Foundation for the Conservation of Coastal Birds (SANCCOB), BirdLife South Africa, and the Minister of the Department of Forestry, Fisheries and the Environment, which established fishing exclusion zones around key penguin breeding colonies to protect their feeding areas. This agreement followed litigation initiated by BirdLife South Africa and SANCCOB, which addressed the decline of African penguin populations. The settlement includes the closure of specific fishing areas around six key breeding colonies, including Dassen Island, Stony Point, Dyer Island, St Croix Island, Bird Island and Robben Island (located less than 10 km from the site). The agreement ensures that the fishing industry can continue to operate, with restrictions in areas crucial for penguin foraging.

4.8 Sea Birds and Seals Protection Act (Act 46 of 1973)

This Act provides for the protection of, and control of the capture and killing of, seabirds and seals. The Benguela Ecoregion, which includes the proposed site, supports a variety of seabirds including penguins, gannets, cormorants and oyster catchers (among others). Robben Island (<10km away from the site) has numerous seabird species, including the regionally Endangered and globally Critically Endangered African Penguin (*Spheniscus demersus*) (Hagen, 2025), Endangered bank cormorant (*Phalacrocoraz neglectus*) (Shaw and Crawford, 2025) and Endangered Cape cormorant (*Phalacrocoraz coronatus*) (McInnes et al., 2025).

According to GN 401 of 2004 Sea Birds and Seals Protection Act, 1973 (Act No. 46 of 1973), Draft Policy for Seals, Seabirds and Shorebirds in South Africa: "*Some species of seabird, e.g. Hartlaub's Gull, have learnt to nest on the roofs of buildings or to build nests on private property (e.g. gardens), often causing damage to buildings (e.g. by blocking gutters) or irritation to residents (e.g. through noise). Policy will aim to discourage such nesting where possible, e.g. through exclusion fencing, laser technology and/or provision of alternative safe breeding sites, and where desired it will allow for the removal of nests and the captive rearing of affected eggs and chicks. However, such removal of nests will not be considered if it is likely adversely to affect the conservation status of the species concerned. Any discouragement or intervention (including the artificial rearing of eggs and chicks) will be at the expense of the landowner concerned.*"

The relevant guidelines and recommendations in the Sea Birds and Seals Protection Act and draft Policy for Seals, Seabirds and Shorebirds in South Africa should be considered in design and construction planning for the proposed development.

4.9 National Environmental Management: Waste Act (Act 59 of 2008)

The National Environmental Management: Waste Act (NEMWA) aims to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation. This Act provides national norms and standards for regulating the management of waste and stipulates specific waste management measures. The NEMWA also provides for the licensing and control of waste management activities, compliance and enforcement, for the national waste information system, and to provide for matters connected therewith.

The list of waste management activities that have, or are likely to have, a detrimental effect on the environment (GN 921 of 2013) includes the different categories of waste management activities, as well as an indication of whether an Environmental Authorisation is required for that category, and what level of assessment is required (Basic Assessment or Scoping and EIA). It is likely that the type of waste management activity associated with the proposed development will be classified as Category C. This means that the relevant requirements or standards as outlined in section 5 of GN 921 of 2013 may be applicable.

Activities relating to the storage of waste applicable to Category C are:

(1) The storage of general waste at a facility that has the capacity to store in excess of 100m³ of general waste at any one time, excluding the storage of waste in lagoons or temporary storage of such waste.

(2) The storage of hazardous waste at a facility that has the capacity to store in excess of 80m³ of hazardous waste at any one time, excluding the storage of hazardous waste in lagoons or temporary storage of such waste.

(3) The storage of waste tyres in a storage area exceeding 500m².

Activities relating to the handling of waste applicable to Category C are:

(4) The scrapping or recovery of motor vehicles at a facility that has an operational area in excess of 500m².

(5) The extraction, recovery or flaring of landfill gas.

(6) The sorting, shredding, grinding, crushing, screening or baling of general waste at a waste facility that has an operational area that is 1000m² and more.

(7) The treatment of organic waste using composting and any other organic waste treatment.

Should any of the above waste storage activities be proposed, the Norms and Standards for Storage of Waste, published under Government Notice R.926 in Government Gazette 37088 of 29 November 2013, will apply to the project. Should any of the above waste handling activities be proposed, the Norms and Standards for the Sorting, Shredding, Crushing, Screening or Bailing of General Waste, published under Government Notice No. 1094 in Government Gazette 41175 of 11 October 2017, will be applicable.

4.10 National Environmental Management: Air Quality Act (Act 39 of 2004)

The National Environmental Management: Air Quality Act 39 of 2004 (NEM:AQA) provides for the regulation and control of activities that affect air quality. Of particular relevance to the proposed development are the National Dust Control Regulations, 2026 (GN 7335 of 31 March 2026), promulgated in terms of the NEM:AQA, which repealed and replaced the 2013 Dust Control Regulations. These regulations prescribe measures for the control of dust and the prevention of nuisance by dust, and set acceptable dustfall rates for residential and non-residential areas. Construction-phase activities, including the importation, handling and placement of quarried rock during the marine reclamation works, demolition, bulk earthworks, concrete batching, have the potential to generate fugitive dust and must comply with these dustfall standards – accordingly, dust management measures have been included in the EMPr (Appendix D). Beyond dust generation, it is unlikely that the proposed development will trigger any of the listed activities published in terms of section 21 of the NEM:AQA (GN 893 of 22 November 2013, as amended) - as such, no Atmospheric Emission Licence is anticipated to be required.

4.11 National Heritage Resources Act (Act 25 of 1999)

The National Heritage Resources Act (NHRA) is the controlling legal framework for heritage management in South Africa. The Act lays down general principles for governing heritage resources management throughout the republic and provides for the identification, assessment, and management of the heritage resources of the country.

Where development will include activities identified in terms of the National Heritage Resources Act, 1999 (NHRA), as listed in the below table, the applicant is required to notify the responsible authority, which in this case is both Heritage Western Cape (HWC) and the South African Heritage Resources Authority (SAHRA), of the intent to develop and furnish it with details regarding the location, nature and extent of the proposed development.

S38(1)(a)	Construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.
S38(1)(c)	Any development or activity that will change the character of a site: (i) exceeding 5 000m² in extent; (ii) involving three or more existing erven or subdivisions thereof.

A Notification of Intent to Develop (NID) was submitted on 12 June 2025 to HWC by the appointed heritage practitioner and a response was received on 25 June 2025 (see Appendix C). The required Heritage Impact Assessment (**Appendix B6-B8** inclusive of the VIA and Marine Archaeology Impact Assessment) was circulated during the previous public participation process for this EIA Report *(from 19 March 2026 to Wednesday, 22 April 2026)* to both SAHRA and HWC, as well as to heritage conservation bodies and interested and affected parties. All comments received were responded to, and submitted to SAHRA and HWC along with the HIA for their comment.

An Impact Assessment Committee (IACOM) Meeting was held on 20 May 2026, where the matter was heard by HWC. The HIA and its recommendations were endorsed by HWC's in its Final Comment -Case No: HWC25061214SJ0612 – included as Appendix C2. Specific mitigation measures from the HIA are discussed in Chapter 6.

Due to its coastal location, the site has potential maritime archaeological significance related to possible shipwrecks. The NHRA protects all archaeological artefacts and sites in South Africa, including maritime artefacts. This includes any shipwreck, any submerged aircraft wreckage, prehistoric landscape, sacred site, shipwreck survivor camp, or rock art site relating to maritime or underwater cultural heritage, which is older than 60 years. Any other archaeological material associated with these sites is also protected by the Act. Maritime and underwater cultural heritage sites or material may not be disturbed unless a permit has been issued by the South African Heritage Resources Agency. Maritime archaeology is assessed as part of the HIA undertaken for the EIA process.

There are existing HWC approvals for the V&A Waterfront in place, which are either of direct or contextual relevance for the project site – these include those in Table 4-2.

Table 4-2: Heritage Western Cape Approvals applicable to this proposed development

Heritage Western Cape Approvals for the V&A Waterfront	Description of Approval
Beach Road Precinct Plan and Arc of Fire	A Phase One HIA for the Beach Road Precinct was compiled in 2008. The subsequent HIA was subject to an Appeals process and a hearing at an HWC Tribunal. The Record of Decision (RoD), which resulted from the

Heritage Western Cape Approvals for the V&A Waterfront	Description of Approval
	Tribunal, established the approved sight lines from Fort Wynyard related to the arc of fire. These sight lines, approved by HWC in the RoD dated 22 June 2011, and the primary heritage indicators, pertain to the Granger Bay Precinct. This decision preserves view arcs across Granger Bay. Within the view arc, no buildings will be higher than 21,5masl or approximately 5 floors. Outside the view arc, towards the Beach Road/ Granger Bay Boulevard Extension corner, building heights may be 10 or 16 floors.
Granger Bay Precinct Plan 2014 & as amended 2019	The Granger Bay Precinct Plan was approved in January 2014 by the CCT. This was amended in the 2019 approved Granger Bay land reclamation and will be detailed further in the Heritage Impact Assessment.
HIA for entire V&AW which formed part of the rezoning application, 2024	A section 38(4) HIA application was approved on 28 October 2024 for the entire V&A Waterfront for additional bulk rights and rezoning of the site to Mixed Use 3 (MU3). The approval included the identification and endorsement of heritage significance and indicators. The endorsement relates to most of the parcels in the study area.

4.12 Legal Succession to the South African Transport Services Act (SATS), 1989 (Act 9 of 1989)

This Act was established to make provision for the formation of a company, for the legal succession to the South African Transport Services by the Company, for the establishment of the South African Rail Commuter Corporation Limited and for related matters. Historically, the special zoning of the site and V&A Waterfront as a Development Zone was allocated in terms of this Act. The Act transformed the South African Transport Services into a public company, and the V&A Waterfront land, which was previously owned by Transnet and its predecessor, SA Railways & Harbours. The Act enabled the City of Cape Town and the then landowner, Transnet, to reach an agreement on development rights for the V&A Waterfront. This agreement acknowledged from the outset that the V&A Waterfront property of ±80ha would be developed over the long term and that market demand would be a factor in the landowner exercising development rights.

4.13 Provincial Noise Control Regulations (PN 200 of 2013)

Construction-related activities associated with the proposed development must abide by the Provincial Noise Control Regulations, PN 200/2013 in terms of the Environment Conservation Act, 1989. Noise mitigation measures is included in the Environmental Management Programme. *These regulations define a "noise nuisance" as a sound which impairs or may impair the convenience or peace of a reasonable person. They outline the role of the local authority, indicating that they may request a noise impact assessment if deemed required. Where the results of an assessment undertaken in terms of sub regulation (1) indicate that the applicable noise rating levels referred to in that sub regulation will likely be exceeded, or will not be exceeded but will likely exceed the existing residual noise levels by 5 dBA or more, the applicant must provide a noise management plan, clearly specifying appropriate mitigation measures to the satisfaction of the local authority, before the application is decided; and implementation of those mitigation measures may be imposed as a condition of approval of the application. The Construction Noise Impact Assessment (Appendix B10) has been conducted focussing on the marine-construction activities required for reclamation, and mitigation measures are included herein and in the EMPr (Appendix D) as specified by the specialist.*

4.14 Spatial Planning and Land Use Management Act (Act 16 of 2013)

The Spatial Planning and Land Use Management Act, 2013 (SPLUMA) is a framework Act for all spatial planning and land use management legislation in South Africa. It seeks to promote consistency and uniformity in procedures and decision-making. Other objectives include addressing historical spatial imbalances and the integration of the principles of sustainable development into land use and planning regulatory tools and legislative instruments. The proposed development and expansion of the V&A Waterfront should align with the SPLUMA development principles:

(a) The principle of **spatial justice,** which includes the need to redress past spatial and other development imbalances through improved access and land use.
(b) The principle of **spatial sustainability,** which upholds the consistency of land use measures in accordance with environmental management instruments and promotes land development in locations that are sustainable and limit urban sprawl.
(c) The principle of **efficiency** whereby land development optimises the use of existing resources and infrastructure, and the negative financial, social, economic or environmental impacts are minimised.
(d) The principle of **spatial resilience,** which recognises the need for accommodating flexibility in spatial plans, policies and land use management systems, ensuring sustainable livelihoods.
(e) The principle of **good administration** recognises the preparation and amendment of spatial plans, policies and land use schemes as well as procedures for development applications, which include transparent processes of public participation that affords all parties the opportunity to provide inputs on matters affecting them.

The V&A Waterfront site is located in the planning jurisdiction of the City of Cape Town and that of the Western Cape provincial government. The location is strategically important in national, provincial and metropolitan planning and policy documents, and the site must be considered within the larger context of the metropolitan, provincial and national policy and planning frameworks. The applicable policy and framework documents relevant to the proposed development are described below.

4.15 Municipal by-laws

The by-laws of the City of Cape Town relevant to the proposed development are listed below:

- **Municipal Planning By-law,** 2015, as amended, which regulates land use and zoning. The site was zoned for Transport Use (Erf 177853: TR1) with an overlay zoning for **Development Zone** (Erf 173712 and Erf 158570-RE: Transport 1) and has subsequently been **rezoned to Mixed Use 3**. The Development Zone was a special zoning allocated to the V&A Waterfront in terms of the Legal Succession to the South African Transport Services Act (SATS), 1989 (Act 9 of 1989). Section 17 of the MPBL refers to the land subject to the provisions of section 13 of the Legal Succession of the South African Transport Services Act, 1989 (Act 9 of 1989).
    - "(1) All land subject to section 13 of the Legal Succession of the South African Transport Services Act, 1989 (Act 9 of 1989) is deemed to be zoned Transport Zoning 1: Transport Use (TR1).
    - (2) Where an agreement has been entered into between the City and the South African Transport Services or any of its divisions or its successors in title in terms of the Legal Succession of the South African Transport Services Act, 1989 (Act 9 of 1989) or preceding legislation, the provisions and conditions contained within such agreement shall prevail over the provisions of the TR1 zoning.

  - (3) The conditions contained in an agreement referred to in sub-item (2) are deemed to be **development rules**.
  - (4) If these development rules are to be altered, this must be done by means of a departure in terms of this By-Law.
  - (5) Where additional land use rights are applied for, this must be done by means of rezoning in terms of this By-Law."
- **Stormwater Management By-law,** 2005, which regulates stormwater management in the City of Cape Town and activities which may have a detrimental effect on the development, operation or maintenance of the stormwater system.
- **Environmental Health By-law,** 2003, as amended, is intended to protect and promote public health by managing and regulating activities that could impact public health, including health nuisances, medical waste, and trades, including accommodation establishments.
- **Coastal By-law,** 2020, provides for the management and protection of the coastal zone, the natural environment of the coastal zone, and managing public access to the coastal zone and beach areas.
- **Integrated Waste Management By-law,** 2009, as amended, which regulates the avoidance, minimisation, generation, collection, cleaning and disposal of waste.
- **Recreational Water-use By-law,** 2018, regulates the use and control of recreational water within the jurisdiction of the City of Cape Town to control the vessels thereon, and to provide for safe and environmentally sensitive recreation.
- **Streets, Public Places and Prevention of Noise Nuisances By-law,** 2007, as amended, to provide effective administration of matters relating to the control of public nuisances, municipal roads, public places, traffic and parking.
- **Traffic By-law,** 2021, provides for the regulation of public transport, municipal roads and traffic and safety on public roads in the area of jurisdiction of the City of Cape Town.

Other By-laws of relevance include the Parking By-law (2010), Wastewater and Industrial Effluent By-law (2013), Water By-law (2010, as amended), Tariff By-law (2007), Rates By-law (2007), Electricity Supply By-law (2010, as amended), and Community Fire Safety By-law (2002, as amended).

4.16 Planning frameworks

The following section outlines the relevant frameworks and plans associated with the proposed development.

4.16.1 Western Cape Spatial Development Framework (2014)

The Western Cape Provincial Spatial Development Framework (PSDF), 2014, is intended to provide a coherent framework for the Western Cape Province that serves as a basis for coordinating, integrating and aligning the delivery of national and provincial departmental programmes, supporting municipalities to fulfil their planning mandate and communicate the governments spatial development intentions to the private sector and civil society.

The PSDF is underpinned by the following core principles: spatial justice, sustainability, resilience, spatial efficiency, accessibility, quality, and liveability. The key objectives of the PSDF include:

- Aligning the future development pattern of the province with areas of economic potential and the location of key environmental resources;
- Delivering human development and basic services wherever they are required;
- Strategically investing limited public-sector resources where they will yield the highest socio-economic returns;
- Protecting biodiversity and agricultural resources; and
- Minimising the consumption of scarce environmental resources, particularly water, fuel, building materials, mineral resources, electricity, and land, while ensuring that environmental protection is prioritised in areas where it outweighs the benefits of economic development.

The proposed development is well located in the Granger Bay Precinct within a high-potential urban node, and the development optimises existing infrastructure, supports economic intensification, and enhances public access along the coastline. The proposed development, therefore, aligns well with the Western Cape SDF by promoting spatial efficiency, sustainability, and strategic investment. It contributes to human development by providing a mix of residential, commercial, and recreational spaces in a well-connected area, while incorporating environmental considerations through coastal protection, land reclamation, and non-motorised transport infrastructure.

More specifically, the PSDF spatial agenda is pursued through spatial policies, clustered around the three themes of "resources", "space economy", and "settlement". The table below includes the themes and some of their policies relevant to the proposed development:

Table 4-3: The themes and policies identified in the Western Cape Provincial Spatial Development Framework (PSDF), 2014, relevant to the proposed development

Theme	Policy	Applicability
Resources	R2: Safeguard inland and coastal water resources, and manage the sustainable use of water	The proposed development is located on the coast and includes land reclamation from the sea. A Marine Impact Assessment and Oceanographic Study have been undertaken to assess the anticipated environmental impacts and recommend mitigation measures associated with the

Theme	Policy	Applicability
		proposed development. These studies indicate that no unacceptable damage to the marine ecosystems and coastal dynamics is anticipated if the recommended mitigation measures are implemented. The proposed development includes a mix of residential, commercial, and recreational spaces in a popular tourist area (V&A Waterfront), and is expected to improve both public access and tourism opportunities.
Space Economy	E1: Use regional infrastructure investment to leverage economic growth	The proposed development is located within the Granger Bay Precinct, expanding on the V&A Waterfront, including a mix of residential, commercial, and recreational spaces. This is expected to contribute positively towards tourism and local revenue, benefiting local and national economic growth.
	E3: Revitalise and strengthen urban space-economies as the engine of growth	The proposed development includes optimising the use of already developed coastal land. The proposed development will include infrastructure associated with residential, commercial and recreational use, providing both private and public amenities. Non-motorised transport along the promenade and the provision of public space are associated with the proposed development.
Settlement	S1: Protect, manage and enhance the sense of place, cultural and scenic landscapes	The proposed development is to occur on the Granger Bay Precinct, V&A Waterfront, a highly urbanised area. The site is well-located, and the proposed development provides an opportunity to optimise the use of this land. The proposed development is not expected to increase urban sprawl but rather intensify development within the urban footprint of the City of Cape Town.
	S2: Improve inter- and intra-regional accessibility	The proposed development is an expansion of the V&A Waterfront, adding to the existing public facilities in the area in close proximity to public transport routes.
	S3: Promote compact, mixed-use and integrated settlements	The site is strategically located in close proximity to the CBD. The proposed development is to include residential, commercial and recreational use. This is to include both private and public facilities.

Theme	Policy	Applicability
	S4: Balance and coordinate the delivery of facilities and social services	The location of the proposed development is on underutilised land for the multi-functional mixed-use development, which aligns with surrounding land uses, providing recreational, commercial and residential opportunities.

4.16.2 City of Cape Town Spatial Development Framework (2023)

The approved 2023 Municipal Spatial Development Framework (MSDF) is a framework for long-term growth and development, and includes a spatial vision, policy parameters and development priorities to guide Cape Town to achieve a reconfigured and inclusive spatial form and structure. The MSDF guides infrastructure investment, urban growth, and sustainable land use. It emphasises three spatial strategies: (1) building an inclusive, integrated, and vibrant city; (2) managing urban growth while balancing development and environmental protection; and (3) improving access to economic opportunities.

The V&A Waterfront is identified in the MSDF as a coastal node and is identified for intensified use within the Urban Inner Core of the City. According to this spatial planning category, coastal nodes are typically also destination-type places (i.e., areas of attraction on the coast) and within the growing, denser parts of the city. Existing and future coastal nodes include a range of functions, from businesses (shops, services, and restaurants), and social facilities (recreation and resorts) to residential developments. Coastal nodes are usually associated with forms of development that support their function as a point of attraction, rather than detracting from it. These nodes make responsible use of the social and economic benefits of the coast, certain public spaces, and historical and biophysical assets. They have been identified in locations that allow natural systems to function sustainably and are protected from flood risk. In these areas, public access must be preserved or actively enhanced.

The proposed development aligns with the MSDF's spatial strategies by contributing to the area's role as a vibrant coastal destination. The proposed development includes recreational, commercial and residential opportunities, and public access is prioritised in the design of the boardwalk and public pools that characterise the proposed section of reclaimed land. Due to the mixed-use and multi-functionality of the proposed development, it is expected to attract both locals and tourists. The proposed development therefore supports diverse land uses, enhances the tourism offering, improves public access to the V&A Waterfront, and promotes responsible coastal development.

The following spatial and policy aspects stated in the MSDF applicable to the proposed development should be considered when assessing development proposals:

- Urban development and coastal edges
- Biodiversity and Marine Protected Areas (MPAs), rivers, and wetlands
- Climate change-related information sources
- Cultural heritage assets, inclusive of protection and exemption initiatives

The MSDF also discusses how the South African metros and larger municipalities are experiencing lingering inequality as a result of the spatial legacy of apartheid. One way to drive a spatial restructuring agenda is to adopt an 'urban acupuncture' (i.e., focused and targeted) approach that enables transformative urban mixed land uses. This approach is promoted through the National

Treasury's Urban Network Strategy (UNS) and supporting spatial planning and urban design guidance. It is aimed at restructuring the typical spatial organisation of cities to enable economic growth and encourage efficiencies through investment consolidation and agglomeration. The City has identified three precincts in which this planning and management initiative is implemented, and the V&A Waterfront falls part of the Gateway Catalytic Precinct where approaches to unlock the economic potential of the Foreshore are being investigated, as well as linkages between the CBD and V&A Waterfront.

4.16.3 City of Cape Town Local Municipality Integrated Development Plan (2022 – 2027)

The City of Cape Town Integrated Development Plan (IDP) is a five-year plan that serves as the principal strategic planning instrument that guides and informs all planning and development decisions in the municipality. Local government policies are anchored in three core principles in the IDP 2022 – 2027, namely, sustainability, resilience, and environmental transformation through transit-oriented development. These principles are aimed at achieving the City of Cape Town's IDP vision of an opportunity city with an enabling environment for business and job creation. In addition, the City has identified 11 priorities that span their strategic focus areas (The Opportunity City, The Safe City, The Caring City, The Inclusive City, and the Well-Run City), some of which include:

- Economic inclusion;
- Safe communities;
- Building integrated communities;
- Resource efficiency and security; and
- Leveraging technology for progress.

The proposed development directly supports the City of Cape Town's IDP 2022–2027 priorities of economic inclusion, resource efficiency, and building integrated communities by intensifying land use within a key urban node already equipped with infrastructure and transport connections. In planning for "shared economic growth and development", one of the objectives of the City's Integrated Development Plan (IDP) is to "ensure that Cape Town continues to grow as an opportunity city". As part of this objective, a key goal is to attract investment and create jobs.
As a major tourism, leisure and commercial destination, the V&A Waterfront's daily working population is in the order of 16 000 people (including the fishing industry), and further development should see this number increase in the near future.

Located within the V&A Waterfront, a high-value mixed-use precinct, the development advances the City's vision of a compact and transit-oriented urban form by promoting pedestrian access, non-motorised mobility, and proximity to MyCiTi and other public transport. By integrating residential, retail, and public space components, the project contributes to inclusive economic growth, supports tourism, and reinforces Cape Town's positioning as an "Opportunity City" with sustainable urban regeneration at its core.

City of Cape Town Comprehensive Integrated Transport Plan (2023 – 2028)

The Urban Mobility Directorate developed a new 5-year Comprehensive Integrated Transport Plan (CITP) 2023–2028, which aligns with the new term-of-office Integrated Development Plan (IDP) 2022–2027. The CITP is informed by community needs, stakeholder inputs, an evaluation of the existing state of transport in Cape Town and an assessment of the transport needs of residents, all of which help identify the challenges that the City needs to address to achieve 'A sustainable transport system that is integrated, efficient and provides safe and affordable travel options for all' (IDP objective 12).

The CITP vision includes efficient access to transport, opportunities related to improved connectivity, financially, socially, and environmentally sustainable forms of transport; and that all transport systems should be safe for all users. The CITP principles are pro-public-transport and NMT, connectivity, and inclusivity.

The V&A Waterfront's overall transport planning approach entails enhancement and improvement of public transport, in line with the City of Cape Town's transportation planning objectives and policies. To this end, development in Granger Bay will be serviced by a range of transport modes, including MyCiTi, Park & Ride, and micro mobility services, with improved integration between transport modes. Hence, no major access road upgrades are proposed.

Over and above public transport, site access improvements will entail the following:

- Access for private vehicles will be from Beach Road and Granger Bay Boulevard Extension (GBB Ext.).
- A pedestrian priority, shared space street will link the existing intersection of Haul Road and Beach Road with Granger Bay Boulevard and will provide local access to the development packages.
- A service/ entrance plaza off Granger Bay Boulevard will allow for service vehicles and private vehicle access to residential and hotel development packages and basement parking.
- Access off Beach Road for the boat launch facility will remain and be enhanced by a linear park space within a 30 m view corridor.
- Vehicular access to major parking garages will be from Granger Bay Boulevard and future Bay Street, with access to the coastal walk only permitted for service vehicles.
- Surface parking areas will be limited in order to create pleasant and usable internal spaces in the precinct.

4.16.4 Transit-Oriented Development Strategic Framework (2016)

Transit-Oriented Development (TOD) represents the intricate relationship between "Transit" (the operational/access imperative of an urban environment) and "Development" (the spatial manifestation of those that are within the urban economy). TOD is about changing, developing, and stimulating the built form of the city in such a way that the movement patterns of people and goods are optimised to create urban efficiencies and enable social equality and economic development. In the context of this Strategic Framework, TOD is seen as a planning, design, and implementation approach that can be employed to address inefficiencies in the urban form of the city. The V&A Waterfront's overall transport planning approach entails enhancement and improvement of public transport, in line with City of Cape Town's transportation planning objectives and policies, such as the TOD Strategic Framework (2016), which *inter alia* promotes new transport modes and integration with public transport to improve accessibility for people of all income levels. To this end, development in Granger Bay will be serviced by a range of transport modes, including MyCiTi, Park & Ride, and micro mobility services, with improved integration between transport modes.

4.16.5 Table Bay District Spatial Development Framework (2023)

The Table Bay District Spatial Development Framework (DSDF) 2023 forms part of the City of Cape Town's municipal planning framework and provides medium- to long-term guidance for land use planning and spatial transformation within the Table Bay district. It is an integrated plan that combines both spatial planning and environmental management (as part of an EMF) to support

sustainable development, economic growth, and resilience in a strategically significant area of the city.

Table Bay is the economic heart of Cape Town, encompassing the Central Business District (CBD), the V&A Waterfront, major transport hubs, and significant tourism assets. The DSDF recognises this centrality and aims to guide development in a manner that promotes efficient land use, protects environmental and heritage resources, and enhances social equity. The key objectives of the Table Bay DSDF are:

- **Land Use Intensification**: Encourage the densification and diversification of land uses (residential and non-residential) in accessible, strategically located areas such as the CBD and V&A Waterfront.
- **Compact Urban Form**: Promote infill development and redevelopment of underutilised land to reduce urban sprawl and make efficient use of existing infrastructure.
- **Economic Growth and Resilience**: Support commercial and tourism development, protect key economic nodes, and enable adaptive land use in response to changing work models (e.g., hybrid work).
- **Environmental and Heritage Protection**: Integrate green infrastructure, protect coastal and ecological areas, and manage cultural and heritage assets.
- **Inclusive Development**: Ensure that development contributes to spatial transformation, housing delivery, and equitable access to opportunities, particularly in historically disadvantaged areas.
- **Public Transport and Accessibility**: Promote transit-oriented development by locating higher-density developments near public transport corridors and interchanges.

In terms of the Table Bay District SDF, Sub-district 1, the V&A Waterfront is identified for 'potential mixed use', which refers to the possibility of developing areas that incorporate various land uses, such as residential, commercial, and retail, within the same location.

The proposed development at Granger Bay aligns closely with the objectives of the Table Bay District Spatial Development Framework (DSDF). It promotes land use compatibility through a blend of residential, commercial, and public spaces in a high-value, economically strategic area. Its location within the V&A Waterfront supports the DSDF's emphasis on accessibility and transit-oriented development, while also reinforcing the V&A Waterfront's role in Cape Town's visitor economy. By fostering job creation and enabling diverse commercial activity, the project advances the DSDF's economic development goals. Furthermore, it supports spatial integration by enhancing the existing urban fabric without contributing to urban sprawl.

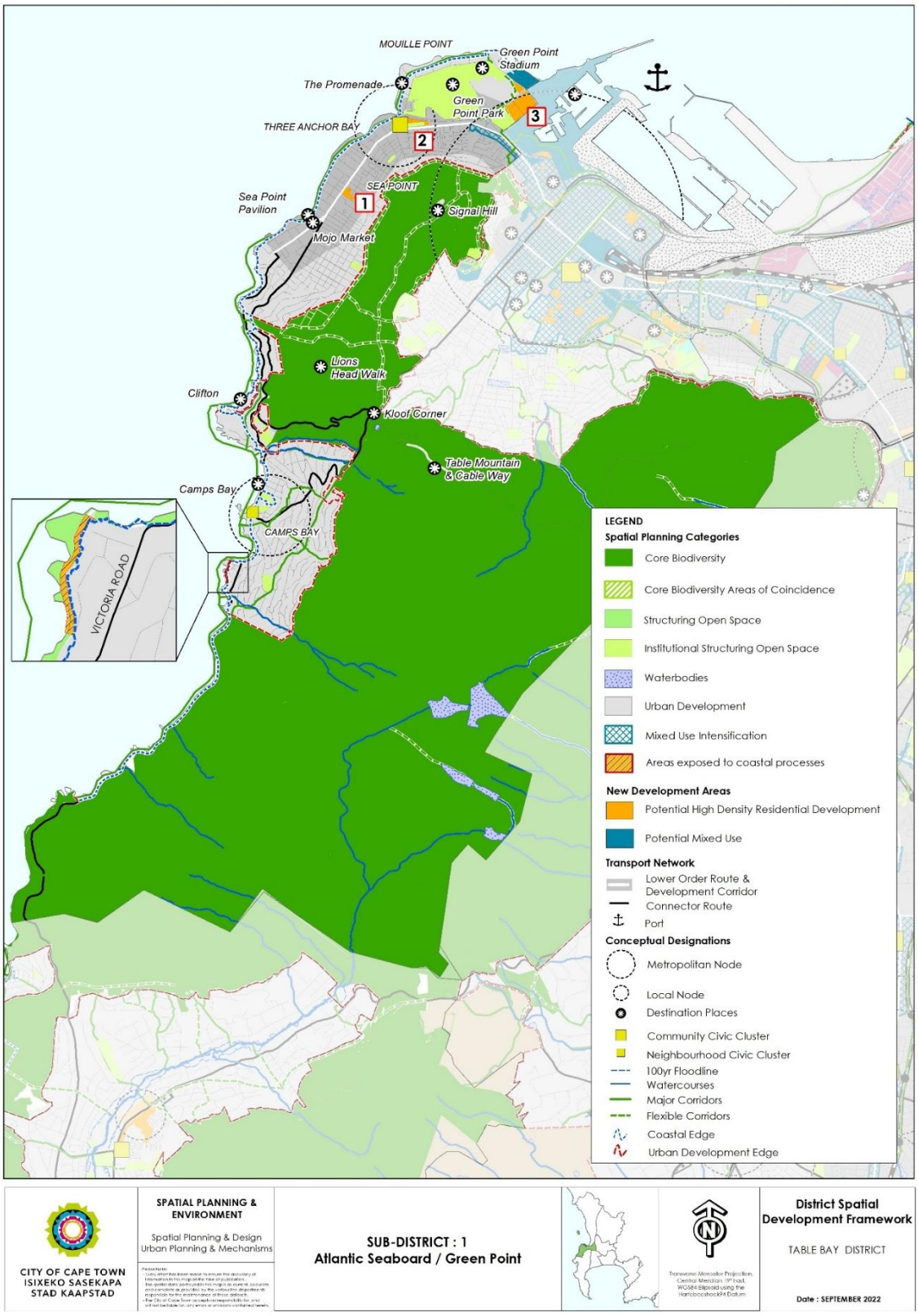


Figure 4-1: Spatial planning categories in the City and Waterfront area (extracted from the 2023 Table Bay District SDF)

4.16.6 National Coastal and Marine Spatial Biodiversity Plan (2022)

The National Coastal and Marine Spatial Biodiversity Plan (NCMSBP) presents Critical Biodiversity Areas (CBAs) as sites that have been identified as being of high conservation priority by the marine biodiversity science community, using the global best practice of Systematic Conservation Planning to integrate the best available knowledge of marine and coastal biodiversity whilst striving for spatial efficiency and conflict avoidance where possible. Ecological Support Areas (ESAs) are often associated with CBAs. The ESAs include all portions of Ecological or Biological Support Areas that are not already within MPAs or CBAs, and a 5 km buffer area around all MPAs (where these areas are not already CBAs or ESAs). Within ESAs, negative impacts of human activities on key biodiversity features are managed and minimised to maintain the features in at least a functional, semi-natural state and/or to allow the area to improve in ecological condition. The proposed Granger Bay area overlaps with an ESA at the western edge (at the Oceana Power Boat Club) but otherwise falls entirely outside of any CBA delineated areas.

4.16.7 Draft Marine Biodiversity Sector Plan (2024)

Marine Sector Plans specify the overall development objectives and priorities of each marine sector for the coming two decades from a national point of view. These plans summarise the national spatial and sector priorities that each marine sector would like to see translated into the Marine Area Plans across the Marine Planning Areas as part of the coming Marine Area Plan development processes.

The 2024 draft Marine Biodiversity Sector Plan was developed by the Biodiversity Sector Plan task team, and draws upon the principles and findings of the NCMSBP to inform its specific strategies. CBA assessment provides a spatial plan for the natural environment and is designed to inform planning and decision-making in support of sustainable development. CBA maps are developed using the principles of systematic biodiversity planning. These maps comprise three categories of biodiversity priority areas, namely Protected Areas, CBAs (called "Biodiversity Conservation/Restoration Areas" in the Marine sector plan for the Biodiversity Sector 2024) and Ecological Support Areas (ESAs) ("Biodiversity Impact Management Zones"), which are jointly important for the persistence of a viable representative sample of all ecosystem types and species, as well as the long-term ecological functioning and connectivity of the landscape or seascape as a whole. The site overlaps an ESA ("Biodiversity Impact Management Zone"), and the list of sea-use activities and their compatibility with this zone are included in the draft Marine Biodiversity Sector Plan. According to this list, recreation and tourism uses such as beach recreation, water sports, diving, and recreational fishing are compatible, which aligns with the proposed development and associated activities.

4.16.8 Development Planning Context

In addition to the abovementioned legislation and policy, the development planning context is important to consider in relation to the proposed development when assessing whether the proposal is appropriate for the site and surroundings.

The below information is extracted from the 2013 ISOCARP Congress report on Cape Town's V&A Waterfront Project Adaptive Re-use as a Foundation for Sustainable Urban Renewal and the 2018 Environmental Impact Assessment Report for the Proposed Mixed-Use development of Erf 173712 Cape Town, Granger Bay Precinct and Associated Sea Defence Works, V&A Waterfront, Cape Town.

Background

Land reclamation has played an important role in the past development of the Cape Town Harbour and V&A Waterfront. In 1937, the South African Parliament approved plans for a new deep water

harbour basin to be constructed to the south of the Victoria and Alfred Basins, with an associated extensive land reclamation project to create a new Cape Town Foreshore. Work was only completed in 1945 due to delays associated with the Second World War. A 230ha area of Foreshore land was created in the process of city expansion. Slow City development meant that by the 1970s, much of the area remained vacant and was used as all-day parking areas. Furthermore, in the 1960s, the Foreshore Freeway construction programme facilitated increased access and vehicular movement around Cape Town's CBD, but it effectively also cut the city off from its historic water's edge.

The area became increasingly isolated due to fencing, access control associated with oil tank farm installations, and in the 1970s, the area was derelict and underutilised. In the early 1980s, the then-Mayor of Cape Town formed a Waterfront Steering Committee, which started lobbying to reconnect the City with the sea. The growing public awareness resulted in the formation of a committee convened under the chairmanship of Arie Burggraaf, who was the Chief Engineer of South African Harbours at the time.

The Burggraaf Committee reported on Cape Town Harbour in 1987, proposing that the historic docklands around Victoria and Alfred Basins be redeveloped as a mixed-use area, with the continuing operation of a working harbour. The Cabinet of the South African Government accepted the recommendations in full in June 1988. The Burggraaf Commission identified ports that were no longer essential for cargo transportation or industrial harbour activity in 1988, which resulted in the concept of commercial development for the V&A Waterfront. The V&A Waterfront was established as a wholly-owned subsidiary of Transnet Ltd to redevelop the historic docklands around Victoria and Alfred Basins as a mixed-use area with a focus on retail, tourism, and residential development, and the continued operation of a working harbour. The main planning objective for the project was the re-establishment of physical links between Cape Town and its historic waterfront to create a quality environment, a desirable place to work, live, and play, and a preferred location to trade and invest for locals and tourists. In 1989, the Legal Succession to the SATS Act was promulgated, which enabled the landowner at the time (Transnet) and the City of Cape Town to reach an agreement on the development rights, which acknowledged that the V&A Waterfront property of approximately 80ha would be developed over a long period of time, factoring in market demand.

Since the development of the V&A Waterfront in Cape Town commenced over 30 years ago, the property has become a premier national and international tourist destination, attracting over 20 million visitors per annum. As the Burggraaf Commission intended, over this period, the property has been developed for a range of purposes, including retail, commercial, residential, educational, and recreational, in tandem with the working harbour and fishing industry. The V&A Waterfront is now a place of rich and diverse entertainment and cultural attractions, as well as accommodating a broad spectrum of economic opportunities.

Development Zone

The zoning "Development Zone" was established in 1993, subsequent to the original Zoning Agreement. The Development Zone was a special zoning allocated to the V&A Waterfront in terms of the Legal Succession to the South African Transport Services Act (SATS), 1989 (Act 9 of 1989). Section 17 of the MPBL refers to the land subject to the provisions of section 13 of the Legal Succession of the South African Transport Services Act, 1989 (Act 9 of 1989). This zoning embodies a basket of rights and a planning approval process, known as the Package of Plans. The process promotes increasing levels of specificity as development proposals evolve from policy and objectives for the site (Development Framework) to spatially defined development guidelines for a functional area (Precinct Plan) and then to site-specific development proposals (Site Development Plan – SDP). Unlike

conventional town planning zones, development controls such as setbacks, coverage, building heights, etc., are not predetermined, but are determined according to policies, objectives and design imperatives and at various stages of project development.

The Development Framework and the Package of Plans zoning mechanisms allowed for flexibility in allocating rights to particular sites to be developed. The ability of the property to respond to changing market forces was encapsulated in the Development Framework and was a specific approved policy component of the Development Zone.

Governing Agreement (October, 2021)

Since 1989, the Applicant has undertaken and completed extensive development in the area. In terms of the agreements with Transnet, reclamation is restricted to the sea areas immediately adjacent to the V&A Waterfront. A "Governing Agreement" was signed between Transnet and the three Transnet retirement funds on 31 October 2001. In terms of the Governing Agreement, Transnet undertook certain contractual obligations relating to the reclamation of land from the sea that would be required for the remaining anticipated development of the V&A Waterfront. It was recorded that one of the remaining obligations owed by Transnet to the Transnet Pension Fund was to procure the necessary governmental approval/s, inter alia, for reclamation of land from the sea to authorise and enable the construction of shore protection works as well as specified areas for future development of the V&A Waterfront.

Current Zoning: Mixed Use 3

The site has been rezoned from Transport Zone 1 (TR1), previously defined as a "Development Zone" under the unique zoning established for the V&A Waterfront in 1993 and currently zoned TR1 in terms of the Development Management Scheme (DMS), **to Mixed Use Subzone 3 (MU3)‡‡.** In terms of the City's Municipal Planning By-law and DMS, Mixed Use Subzone 3 permits a broad range of land uses intended to support integrated, high-intensity urban development. These include residential development, offices and business premises, retail uses, hotels and other forms of visitor accommodation, restaurants and places of entertainment, institutions, indoor sports and recreation facilities, and parking garages, together with associated ancillary and service uses. This project would align with the current zoning's permissible uses.

The approval is valid for a period of five years and allows a maximum additional floor space of 440,000 m² beyond the existing approved development bulk, as determined under the previous 'package of plans' approach and converted into floor space. The rezoning remains subject to various conditions relating to Site Development Plan (SDP) approvals, including building height limitations, infrastructure provision, and other applicable development controls.

‡‡ *Rezoning Application Case ID 1500109534*



Figure 4-2: Proposed reclaimed land that will require future registration and zoning, and recently rezoned V&AW properties adjacent to the project site.

4.17 Other Policies and Strategies

Some of the City's other applicable policies and strategies are listed below:

4.17.1 City of Cape Town's Climate Change Strategy (2021)

The City of Cape Town's Climate Change Strategy, approved by the City Council on 27 May 2021, recognises that responding to climate change and dealing with its impacts are essential for building the City's resilience. It notes that the climate changes in Cape Town include a rise in mean sea level and increased coastal erosion. The relevant goals for the proposed development include:

- **Goal 3: Reduce demand for water to protect water resources and ensure the sustainability of supply**
- Although not included in this development proposal, the V&AW's long-term objective for the whole property holding is to substantially reduce reliance on the City of Cape Town (CoCT) for the supply of water. This will be implemented in a phased manner with the objective of eventually relying on the CoCT mains connections to the V&A Waterfront only for critical situations. In this regard, V&AW's Desalination Plant, located outside the application site area on V&A Waterfront-owned property, is scheduled to become operational during 2025. It has been designed to meet current water demands and to cater for the future growth of the property, including the application site. The desalination plant will have an initial capacity to produce 3,300 m³/d and will be upgradable, with minimal disruption, to 5,000 m³/d. Hence, no upgrades would be required on the CoCT potable water network.

- **Goal 6: Take action to reduce flood risk and storm damage through disaster mitigation approaches**
- The oceanographic study includes wave transformation modelling of storm conditions. Various mitigation measures are included to reduce the risks associated with wave reflections and the replacement of the existing unprotected embankment and gravel beach in the form of a permanent rock revetment and two breakwaters ensure shoreline protection, as well as providing shelter for portions of the site from storm action.

- **Goal 7: Promote coastal resilience to the benefit of both coastal communities and coastal ecosystems**
- The development is expected to enhance inclusive coastal access and contribute to broader public benefit if implemented with due attention to access equity, local employment prioritisation, and support for small enterprises. These aspects align with key sustainability principles outlined in the National Environmental Management Act (NEMA) and the Integrated Coastal Management Act (ICMA), supporting the promotion of socially and economically inclusive development. The replacement of the existing unprotected embankment and gravel beach, a permanent rock revetment and two breakwaters will be established to ensure shoreline protection and provide shelter from storm action.

- **Goal 8: Put in place effective cooperative and empowering mechanisms for addressing complex coastal management issues in the context of climate change**
- The National Environmental Management: Integrated Coastal Management Act 24 of 2008 (ICMA) is the primary environmental legislation responsible for the integration and coordination of various coastal and marine management efforts. This integrated coastal management addresses the governance of human activities affecting the sustainable use of goods and services generated by coastal and marine ecosystems. ICMA is applicable here in terms of the Coastal Management Policy. Section 7C of the ICMA notes that reclamation of land from the sea will be considered only in exceptional circumstances and when it is not contrary to the purpose of coastal public property (i.e. to improve public access to the seashore, to protect sensitive coastal ecosystems, to secure the natural functioning of coastal processes, and to provide protection from dynamic coastal processes including sea level rise). Furthermore, the Scoping and EIA process entails a public participation process, enabling a cooperative and empowering mechanism within coastal management by allowing I&APs to participate in the environmental authorisation process, which requires all concerns raised within the PPP to be addressed.

A Climate Change Impact Assessment has been undertaken to ensure climate change-related risks are assessed and avoided where possible.

4.17.2 City of Cape Town Management of Urban Stormwater Impacts Policy (2009)

The City of Cape Town's 2009 Management of Urban Stormwater Impacts Policy will inform the development of a Stormwater Management Plan for the site, with the objectives of improving the quality of stormwater runoff and controlling the quantity and rate of stormwater runoff. No upgrades would be required to the CoCT stormwater networks, as the V&A Waterfront networks are self-contained within the V&A Waterfront property and drain to the ocean. An existing 1.5m diameter

stormwater drain within Granger Bay is proposed to be extended to the new revetment, and the design of this extension will take into account storm surge events.

Multiple additional stormwater outfalls are proposed through the sea wall/revetment. Water quality controls within the Granger Bay study area will include:

- Use of permeable paving within the public realm, where appropriate.
- Controlled directing of surface flows into landscaped areas and planters within the public realm. This will assist in reducing irrigation requirements as well as the filtration of runoff.
- Hydrocarbon interceptors installed on external delivery and parking areas. Note that most of the delivery and parking areas will be in basements, where sumps will be provided that do not directly connect to stormwater drains.

4.17.3 Environmental Strategy for the City of Cape Town (2017)

The City's Environmental Strategy, 2017, applies to decision-making by the City of Cape Town and determines a set of 'desired outcomes' in relation to its vision to '*enhance, protect and manage Cape Town's natural and cultural resources for long term prosperity, in a way that optimises economic opportunities and promotes access and social well-being*'. The proposed development seeks to improve public access to the coastline, to secure the natural functioning of coastal processes, protect sensitive coastal ecosystems, and provide protection from dynamic coastal processes, including sea level rise. The Marine Impact Assessment notes that safer and more formalised access to the marine edge could enhance user safety and environmental management compared to the current *ad hoc* use patterns. A Climate Change Impact Assessment has been undertaken to ensure climate change-related risks are assessed and avoided where possible.

4.17.4 Integrated Coastal Management Policy of the City of Cape Town (2014)

The Integrated Coastal Management Policy, 2014, is central to reducing risk to the City and its communities and is core to retaining and enhancing the many current and future economic, social and environmental opportunities of the City's unique coastline into the future. The principles determined in the Integrated Coastal Management policy also complement and support the principles defined in the National Integrated Coastal Management Act, to which the City is legislatively bound. The policy directive details outline how:

- **The coastline is a common asset, a shared space and a unique natural and cultural environment which belongs to all South Africans.**
- The proposed development centres on the reclamation of land from Table Bay to accommodate new coastal public amenities and new mixed-use development and coastal protection. The proposed development includes anticipated improved employment prospects, enhanced public access to the coast, and broader urban upliftment.

- **Equitable access to the coast is a priority while ensuring that this access is regulated, organised and controlled in a manner that does not detract from or negatively impact the coastal environment while also ensuring ease of access for all.**
- Public access is a core aspect of the proposed development, which includes the construction of new public amenities such as the new bay, providing sheltered waters for boating, kayaking, and swimming. Land-based amenities will include a coastal public walkway, a slipway, a fixed quayside, landscaped promenade, tidal pools, pedestrian paths and open areas.
- The proposed development includes a new slipway to replace the existing slipway and new sheltered public waters in the proposed bay. Access to a functioning slipway is expected to be

retained throughout the construction process by constructing a new slipway before the closure of the existing one. Details of the operational management of this facility will be determined by the applicant to ensure continued accessibility and provision for maintenance and upkeep.

- **The coastline underpins much of Cape Town's economy and holds significant potential to contribute further economic growth and social development opportunities in Cape Town. However, the economic and social value of the coastline must be finely managed as poor decision making, poor management, prioritising short-term gains, over-development or inappropriate development can substantially diminish current economic and social value while removing or reducing the potential for any future economic and social opportunities.**
- The proposed Granger Bay development is anticipated to act as a strategic driver by injecting short-term capital expenditure during construction and promoting long-term economic growth through enhanced residential, commercial, and tourism activity. As Cape Town seeks to strengthen its economic resilience, integrated mixed-use developments in high-value urban nodes can contribute meaningfully to Gross Value Added expansion and inclusive growth.

- **Coastal recreation takes many forms and is one of the largest social activities in Cape Town. Coastal recreation underpins a range of economic activities in Cape Town and provides significant social development value.**
- New public amenities associated with the proposed development include the new bay, providing sheltered waters for boating, kayaking, and swimming. Land-based amenities will include a coastal public walkway, a slipway, a fixed quayside, a landscaped promenade, tidal pools, pedestrian paths and open areas.

- **In order to reduce coastal risk, especially given the future impacts of climate change on sea level rise and increased frequency and intensity of coastal storm surges, it is imperative that we maintain a healthy functioning coastline. By maintaining the integrity of the coastline, the economic, social and value of the coast will be optimised.**
- The replacement of the existing unprotected embankment and gravel beach with a permanent rock revetment and two breakwaters will provide shoreline protection, as well as shelter for portions of the site from storm action. A Climate Change Impact Assessment has been undertaken to ensure climate change-related risks are assessed and avoided where possible.

- **Cape Town's coastline has a varied and rich history, spanning several millennia. It is integral to our history, heritage, sense of place and unique identity. In addition, the coastal landscapes underpin the City's scenic routes, global desirability and recognition.**
- In terms of the 2011 Heritage Record of Decision (RoD), the heritage significance of Fort Wynyard has been established and any development in Granger Bay precinct must respond to the aspects described in the RoD, including that a 30m wide view corridor from the main gun emplacements to the coastline must be kept open to provide a sense of the link between the fort and Table Bay. The RoD also states that a public pedestrian route along the water's edge in Granger Bay is required, as such a route would be a major new city amenity which would provide an opportunity to view two World Heritage Sites (Robben Island and Table Mountain) from this coastal setting. The proposed development aligns with this as it includes a coastal public walkway and the height of buildings is limited to 21.5m above mean sea level [MSL] to maintain key views within the Arc of Fire. The HIA, inclusive of the VIA and Marine AIA, has been completed during the EIA Phase and made available with the EIA Report.

- **Risk management and mitigation associated with coastal erosion and storm surges needs to be appropriate and sustainable, including multi-disciplinary approaches aimed at resolving and adapting to the expected impacts of climate change.**
    - The replacement of the existing unprotected embankment and gravel beach with a permanent rock revetment and two breakwaters will provide shoreline protection, as well as shelter for portions of the site from storm action. The Climate Change Impact Assessment will also contribute to risk management associated with the proposed development.

4.18 Guidelines

There are a number of guideline documents that must inform the work of the environmental practitioner and the various specialists. The principles contained in these documents will be incorporated into the various aspects of the study. The following guidelines, frameworks, and principles are applicable to the scoping and EIA process:

» Public Participation Guideline, October 2012 (Government Gazette 35769);
» DEA&DP and DEA Guidelines published in terms of the NEMA EIA Regulations, in particular:
    - Guideline on Alternatives (DEA, 2014);
    - Guideline on Transitional Arrangements (DEA&DP, March 2013);
    - Guideline on Alternatives (DEA&DP, March 2013);
    - Guideline on Public Participation (DEA&DP, March 2013); and
    - Guideline on Need and Desirability (DEA&DP, March 2013);
» Information Document on Generic Terms of Reference for EAPs and Project Schedules (March 2013);
» Integrated Environmental Management Information Series (Booklets 0 to 23) (Department of Environmental Affairs and Tourism (DEAT), 2002 – 2005);
» Guidelines for Involving Specialists in the EIA Processes Series (DEA&DP)
» Department of Environmental Affairs (2017), Public Participation guideline in terms of NEMA EIA Regulations
» Department of Environmental Affairs (2017), Guideline on Need and Desirability

These guidelines are the basis for this EIA Report and associated specialist reporting, as well as the Scoping and EIA process currently underway.

CHAPTER 5
NEED AND DESIRABILITY

July 2026

Amended Environmental Impact Assessment Report

INFINITY ENVIRONMENTAL

5 NEED AND DESIRABILITY

This chapter presents a description of the rationale and motivation for the proposed development. It outlines key aspects of the 'need and desirability' of the proposal, as required by the EIA Regulations.

The consideration of "need and desirability" of a proposal is a key part of environmental impact assessment, which relates to the context, broader societal needs, and the public interest. Although not defined in NEMA, need and desirability are generally considered to relate to:

(a) The economic and/or societal benefit likely to be conferred by a proposed development, and
(b) The policy and spatial planning context, which relates to whether an activity is being proposed at the right time and in the right place.

The sections below are based on the Guidelines for Need and Desirability (DEA, 2014) and set out the key considerations motivating the need and desirability of the project proposal. This chapter should be read in conjunction with Chapter 2, which sets out legislation, policy, and planning contexts in which the project is proposed, and Chapter 6, which describes the anticipated impacts of the project.

5.1 Planning and Development Suitability

The Need and Desirability Guidelines (DEA, 2014) require that planning and development consider the broader community's needs and note that 'What is needed and desired for a specific area should primarily be strategically and democratically determined beyond the spatial extent of individual EIAs. The strategic context for informing need and desirability may therefore firstly be addressed and determined during the formulation of the sustainable development vision, goals and objectives of Municipal Integrated Development Plans ("IDPs") and Spatial Development Frameworks ("SDFs") during which collaborative and participative processes play an integral part, and are given effect to, in the democratic processes at local government level.'

The following sections describe the spatial planning frameworks applicable to the proposed site.

5.1.1 Western Cape Spatial Development Framework (2014)

The proposed development is located within a high-potential urban node, and the development optimises existing infrastructure, supports economic intensification, and enhances public access along the coastline. The proposed development, therefore, aligns well with the Western Cape SDF by promoting spatial efficiency, sustainability, and strategic investment. It contributes to sustainable development by providing a mix of residential, commercial, and recreational spaces in an accessible area, while incorporating environmental considerations through coastal protection, land reclamation, and non-motorised transport infrastructure.

5.1.2 City of Cape Town Spatial Development Framework (2023)

The approved 2023 Municipal Spatial Development Framework (MSDF) is a framework for long-term growth and development, and includes a spatial vision, policy parameters and development

priorities to support Cape Town achieving a reconfigured and inclusive spatial form and structure. The MSDF guides infrastructure investment, urban growth, and sustainable land use. It emphasises three spatial strategies: (1) building an inclusive, integrated, and vibrant city; (2) managing urban growth while balancing development and environmental protection; and (3) improving access to economic opportunities.

The V&A Waterfront is identified in the MSDF as a coastal node and is identified for intensified use within the Urban Inner Core of the City, in which intensification and densification of uses are prioritised. Coastal nodes are typically also destination places (i.e. areas of attraction on the coast) and within the growing, denser parts of the city. Existing and future coastal nodes include a range of functions, from businesses (shops, services and restaurants), and social facilities (recreation and resorts) to residential developments. Coastal nodes are usually associated with forms of development that support their function as a point of attraction, rather than detracting from it. Nodes should make responsible use of the social and economic benefits of the coast, certain public spaces, and historical and biophysical assets. They have been identified in locations that allow natural systems to function sustainably and are protected from flood risk. In these areas, public access must be preserved or actively enhanced.

The proposed development aligns with the MSDF's spatial strategies by contributing to the area's role as a vibrant coastal destination. The proposed development includes recreational, commercial and residential opportunities, and public access is prioritised in the design of the boardwalk and public pools that characterise the proposed section of reclaimed land. Due to the mixed-use and multi-functionality of the proposed development, it is expected to attract both locals and tourists. The proposed development includes diverse land uses, enhances the tourism offering, improves public access to the waterfront, and promotes responsible coastal development.

5.1.3 Table Bay District Spatial Development Framework 2023 (DSDF)

Table Bay is the economic heart of Cape Town, encompassing the Central Business District (CBD), the V&A Waterfront, major transport hubs, and significant tourism assets. The DSDF recognises this centrality and aims to guide development in a manner that promotes efficient land use, protects environmental and heritage resources, and enhances social equity.

In terms of the Table Bay District SDF, Sub-district 1, the V&A is identified for 'potential mixed use' (refer to Figure 2-2), which refers to the possibility of developing areas that incorporate various land uses, such as residential, commercial, and retail, within the same location. The proposed development at Granger Bay aligns closely with the objectives of the Table Bay District Spatial Development Framework (DSDF). It promotes land use compatibility through a blend of residential, commercial, and public spaces in a high-value, economically strategic area. Its location within the V&A Waterfront supports the DSDF's emphasis on accessibility and transit-oriented development, while also reinforcing the Waterfront's role in Cape Town's visitor economy. By fostering job creation and enabling diverse commercial activity, the project advances the DSDF's economic development goals. Furthermore, it supports spatial integration by enhancing the existing urban fabric without contributing to urban sprawl.

5.1.4 City of Cape Town Local Municipality Integrated Development Plan (2022 – 2027)

The proposed development directly supports the City of Cape Town's IDP 2022–2027 priorities of economic inclusion, resource efficiency, and building integrated communities by intensifying land use within a key urban node already equipped with infrastructure and transport connections. In

planning for "shared economic growth and development", one of the objectives of the City's Integrated Development Plan (IDP) is to "ensure that Cape Town continues to grow as an opportunity city". As part of this objective, a key goal is to attract investment and create jobs.

As a major tourism, leisure and commercial destination, the V&A Waterfront's daily working population is in the order of 16 000 (including the fishing industry), and further development should see this number increase in the near future.

Located within the V&A Waterfront, a high-value mixed-use precinct, the development advances the City's vision of a compact and transit-oriented urban form by promoting pedestrian access, non-motorised mobility, and proximity to MyCiTi and other public transport. By integrating residential, retail, and public space components, the project contributes to inclusive economic growth, supports tourism, and reinforces Cape Town's positioning as an "Opportunity City" with sustainable urban regeneration at its core.

5.1.5 Other municipal policies

The proposed development aligns with three of Cape Town's long-term sustainability policies, including: The City of Cape Town's Climate Change Strategy (2021), Environmental Strategy for the City of Cape Town (2017) and the Integrated Coastal Management Policy of the City of Cape Town (2014).

City of Cape Town's Climate Change Strategy (2021)

Goal 6: Take action to reduce flood risk and storm damage through disaster mitigation approaches

The oceanographic study includes wave transformation modelling of storm conditions. Various mitigation measures are included to reduce the risks associated with wave reflections and the replacement of the existing unprotected embankment and gravel beach in the form of a permanent rock revetment and two breakwaters ensure shoreline protection, as well as providing shelter for portions of the site from storm action.

Goal 7: Promote coastal resilience to the benefit of both coastal communities and coastal ecosystems

The development is expected to enhance inclusive coastal access and contribute to broader public benefit if implemented with due attention to access equity, local employment prioritisation, and support for small enterprises. These aspects align with key sustainability principles outlined in the National Environmental Management Act (NEMA) and the Integrated Coastal Management Act (ICMA), supporting the promotion of socially and economically inclusive development. The replacement of the existing unprotected embankment and gravel beach, a permanent rock revetment and two breakwaters, will be established to ensure shoreline protection and provide shelter from storm action. It will also enable direct public access to the water, which is currently inaccessible due to the nature of the current shoreline. A Climate Change Impact Assessment was undertaken to ensure climate change-related risks are assessed and mitigated or adapted for.

Environmental Strategy for the City of Cape Town (2017)

The City's Environmental Strategy, 2017, applies to decision-making by the City of Cape Town and determines a set of 'desired outcomes' in relation to its vision to '*enhance, protect and manage Cape Town's natural and cultural resources for long term prosperity, in a way that optimises economic opportunities and promotes access and social well-being*'. The proposed development seeks to improve public access to the coastline, to secure the natural functioning of coastal

processes, protect sensitive coastal ecosystems, and provide protection from dynamic coastal processes, including sea level rise. The Marine Impact Assessment notes that safer and more formalised access to the marine edge could enhance user safety and environmental management compared to the current ad hoc use patterns.

Integrated Coastal Management Policy of the City of Cape Town (2014)

The Integrated Coastal Management Policy, 2014, is intended to reduce risk to the City and its communities and is core to retaining and enhancing the many current and future economic, social and environmental opportunities of the City's unique coastline into the future. The principles determined in the Integrated Coastal Management policy also compliment and support the principles defined in the National Integrated Coastal Management Act, to which the City is legislatively bound by. The policy directive details outline how:

- The coastline is a **common asset**, a shared space and unique natural and cultural environment which belongs to all South Africans

  The proposed development centres on the reclamation of land from Table Bay, to accommodate new coastal public amenities and new mixed-use development. The proposed development includes anticipated improved employment prospects, enhanced public access to the coast, and broader urban upliftment. Ocean users and the marine economy has also been considered, and space has been allocated for various facilities.

- Equitable **access** to the coast is a priority while ensuring that this access is regulated, organised and controlled in a manner that does not detract from or negatively impact on the coastal environment while also ensuring ease of access for all.

  Public access is a core aspect of the proposed development which includes the construction of new public amenities such as the new bay, providing sheltered waters for boating, kayaking, and swimming. Land-based amenities will include a coastal public walkway, a slipway, a fixed quayside, landscaped promenade, tidal pools, pedestrian paths and open areas. The proposed development includes a new slipway to replace the existing slipway and new sheltered public waters in the proposed bay. Access to a functioning slipway is expected to be retained throughout the construction process by constructing a new slipway before the closure of the existing one. Details of the operational management of this facility will be considered by the applicant to ensure continued accessibility and provision for maintenance and upkeep.

- The coastline underpins much of Cape Town's economy and holds significant potential to contribute further **economic growth and social development opportunities** in Cape Town. However, the economic and social value of the coastline must be finely managed as poor decision making, poor management, prioritising short terms gains, over-development or inappropriate development can substantially diminish current economic and social value while removing or reducing the potential for any future economic and social opportunities.

  The proposed Granger Bay development is anticipated to act as a strategic driver by injecting short-term capital expenditure during construction and promoting long-term economic growth through enhanced residential, commercial, and tourism activity. As Cape Town seeks to strengthen its economic resilience, integrated mixed-use developments in high-value urban nodes can contribute meaningfully to Gross Value Added expansion and inclusive growth.

- **Coastal recreation** takes many forms and is one of the largest social activities in Cape Town. Coastal recreation underpins a range of economic activities in Cape Town and provides significant social development value.

  New public amenities associated with the proposed development include the new bay, providing sheltered waters for boating, kayaking, and swimming. Land-based amenities will include a coastal public walkway, a slipway, a fixed quayside, landscaped promenade, tidal pools, pedestrian paths and open areas.

- In order to reduce coastal risk, especially given the future impacts of climate change on sea level rise and increased frequency and intensity of coastal storm surges, it is imperative that we maintain a healthy **functioning coastline**. By maintaining the integrity of the coastline, the economic, social and value of the coast will be optimised.

  The replacement of the existing unprotected embankment and gravel beach with a permanent rock revetment and two breakwaters will provide shoreline protection, as well as shelter for portions of the site from storm action. A Climate Change Impact Assessment was undertaken to ensure climate change-related risks are assessed and avoided where possible.

- Cape Town's coastline has a varied and rich history, spanning several millennia. It is integral to our **history, heritage, sense of place and unique identity**. In addition, the coastal landscapes underpin the City's scenic routes, global desirability and recognition.

  In terms of the 2011 Heritage Record of Decision (RoD), the heritage significance of Fort Wynyard has been established and any development in Granger Bay precinct must respond to the aspects described in the RoD, including that a 30m wide view corridor from the main gun emplacements to the coastline must be kept open to provide a sense of the link between the fort and Table Bay. The RoD also states that a public pedestrian route along the water's edge in Granger Bay is required, as such a route would be a major new city amenity, which would provide an opportunity to view two World Heritage Sites (Robben Island and Table Mountain) from this coastal setting. The proposed development aligns with this as it includes a coastal public walkway, and the height of buildings is limited to 21.5m above mean sea level [MSL] to maintain key views within the arc of fire (historic arc of fire from a gun emplacement at Fort Wynyard).

- **Risk management and mitigation** associated with coastal erosion and storm surges need to be appropriate and sustainable, including multi-disciplinary approaches aimed at resolving and adapting to the expected impacts of climate change.

  The replacement of the existing unprotected embankment and gravel beach with a permanent rock revetment and two breakwaters will provide shoreline protection, as well as shelter for portions of the site from storm action. The Climate Change Impact Assessment will guide design elements, where required.

5.1.6 Land Use

The proposed site is transformed and contains recreational, commercial and retail opportunities. However, the proposed site is underutilised and in a degraded condition, despite being in a prime location, and therefore appropriate development could help to enhance the area and play a key

role in providing continuity of both the urban fabric and a pedestrian route along the coastline, linking Mouille Point with the V&A Waterfront.

The site is mainly vacant, and portions are leased by tenants, including the Oceana Power Boat Club and its boat launching facility; the Grand Africa Café and Beach events venue in an old warehouse and temporary structures such as the demountable 3-storey parking facility. The Lookout events and hospitality facility has been demolished. The site is otherwise in a derelict state, mostly used by the V&AW for the temporary storage of large volumes of spoil.

The marine and coastal environment within the proposed site consists of a gravel beach and dolosse revetments along the coastline to dissipate waves, with a slipway to launch boats and a small dock in front of the Oceana Power Boat Club. Oceana Power Boat Club has a launching facility for motorised and non-motorised watercraft that is open to the public. There is also a storage/parking area for the Oceana Power Boat Club located in the western portion of the site.

5.1.7 Proposed Development Infrastructure

Coastal Walkway

In respect of the public access to the water's edge, the coastal timber boardwalk spans the coast between the dolosse revetment at the end of Breakwater Boulevard and then continues as a paved walkway to the edge of the heritage Breakwater Wall. The timber boardwalk is interrupted for almost the entire length of the V&A Waterfront but is interrupted by the restrictions of the slipway operation and the Grand Cafe & Beach development. The proposed development will allow for an uninterrupted coastal boardwalk from the V&A Waterfront through Granger Bay to the Sea Point Promenade, and will also allow for access to the wate , where this is currently inaccessible.

Granger Bay reclamation infrastructure

Currently, the Granger Bay coastline is subject to erosion, specifically on the unprotected embankment and gravel beach. The proposed Granger Bay reclamation will be developed with breakwaters and permanent rock revetments to protect from wave action and coastal erosion, therefore ensuring long-term protection for coastal infrastructure. The Granger Bay area will be a coastal public zone, with a variety of recreational uses including boating, kayaking and swimming. There will be public access to the shoreline, open spaces and the envisioned swimming/tidal pool facilities in the bay. Ancillary infrastructure such as changing and ablution facilities will be provided, to designs confirmed as part of the detailed design phase.

Mixed-use Development Space

As previously mentioned, the site is underutilised and should be developed as a public amenity given its prime location. Mixed-use development is proposed to frame this coastal amenity. This will comprise residential, hotels, leisure, and some commercial development. The types of residential accommodation being considered include hotels, serviced apartments, and private apartments. The layout of the mixed-use development is intended to promote uses and activities that could take advantage of the ocean location of the site.

New Public Slipway & Marine Economy Facilities

The slipway will be reconstructed in a new location and will remain a publicly accessible launch site, along with ancillary facilities (parking, etc.) necessary to its function. Access to a functioning slipway

is expected to be retained throughout the construction process by constructing a new slipway before the closure of the existing one.

The existing slipway is managed by the Oceana Power Boat Club. Institutional considerations regarding the management of the new slipway have not yet been confirmed; the requirements of all users of the slipway are to be considered. Details of the operational management of this facility will be considered by the applicant to ensure continued accessibility and provision for maintenance and upkeep, as well as safety and liability aspects. Ultimately, the intention is to maintain public access to the slipway both during the construction and post-construction phases and improve launching conditions within a sheltered bay.

The proposed bay formed by the two breakwaters is modelled to be safe for small craft under most conditions, and to have wave velocities and heights very similar to those in the existing slipway area. The current speeds in the new Granger Bay due to wind, tides, and ocean currents are projected to be a maximum of 0.06 m/s in summer and 0.02 m/s in winter (PRDW, 2025; **Appendix G2**).

5.2 Ecological and Environmental Considerations

According to the Need and Desirability Guidelines (DEA, 2014), ecological and environmental factors, including the assessment of threatened ecosystems, potential impacts and mitigation measures, the impacts on people's environmental rights, and long-term sustainability measures, need to be considered during the design process, Scoping and EIA phases. The following sections describe some of the ecological and environmental factors considered.

5.2.1 Biodiversity Protection

Ecological impacts are assessed in this Environmental Impact Assessment (EIA) Report. Oceanographic, marine and marine mammal specialist assessments will determine the specific impacts on the ecological integrity of the area. For details of these findings, refer to Chapter 6.

5.2.2 Environmental Impacts

Specialist studies, including the Marine Mammal Impact Assessment, Marine Ecology Specialist Impact Assessment, and Oceanographic Specialist Impact Assessment have evaluated the ecological and oceanographic implications, respectively, of the proposed developments. These are detailed in Chapter 6 of this report. A Climate Change Impact Assessment has also been conducted as part of the EIA phase of the process.

In general, the impacts are anticipated to be negative, but none with high negative significance after mitigation. Conversely, the no-go alternative would entail maintaining the current status quo within Granger Bay; thus, none of these negative construction phase impacts would occur. Ecological issues and impacts are further described in Chapter 6 and in the specialist impact assessments (Appendix B).

5.2.3 Environmental Impact Management

Where impacts cannot be avoided, specialists have provided mitigation measures to remedy, mitigate and manage impacts to acceptable levels. Where impacts are positive, enhancements to the impact may be provided. Mitigation measures have been identified in Chapter 6 of this report. The specialist studies, and Environmental Management Programme provide further detail on impacts and mitigation measures/enhancements.

5.2.4 Environmental Rights

The construction phase of the proposed development may negatively impact coastal access rights by temporarily limiting access to the coastal and marine environment during the land reclamation process. However, only very limited access is currently possible, and the proposed development will increase access to the coast and provide public amenities in the post-construction phase. Pollution prevention and mitigation measures will be implemented during the construction phase to ensure people's right to a healthy environment and to prevent ecological degradation.

5.3 Heritage considerations

According to the Need and Desirability Guidelines (DEA, 2014), heritage resources, including site history, heritage context, previous heritage approvals, potential impacts, and mitigation measures, need to be considered during the design process, Scoping and EIA phases. Refer to Chapter 3 for a description of the heritage context and the resources of provincial and local heritage significance surrounding the site, and to Chapter 5 for a summary of identified heritage-related impacts.

The site does not contain any National or Provincial Heritage Resources; however, the primary character component of any significance present is the spatial and visual contact with the water's edge (Graded as IIIA). Moreover, many of the fishermen who originally used the slipway belonged to communities who were forcibly removed from Cape Town (District 6, Sea Point) during the Apartheid years and had a long-standing tradition of using the facility to launch their boats. These heritage resources will not be negatively impacted by the proposed development, as the spatial and visual contact with the water's edge will be enhanced, and an upgraded slipway will be retained in a new location.

Visibility from Beach Road, Fort Wynyard, Somerset Hospital, the Water Club, and the Radisson Hotel breakwater will be affected during the construction phase of the development. Therefore, this development may temporarily impact these heritage resources surrounding the site during the construction phase of the proposed development. The heritage specialist will provide mitigation measures to reduce the impact of construction on the surrounding heritage resources in the Heritage Impact Assessment. Additional considerations may be required, which will be considered and implemented once the consultation process with the heritage authorities has concluded.

5.4 Socio-Economic Considerations

The Need and Desirability Guidelines (DEA, 2014) require the consideration of socio-economic impacts, including job creation, and allow for the fair distribution of benefits and burdens and fair public participation during the Scoping and EIA. The following sections describe the socio-economic impacts.

5.4.1 Job Creation

Job creation is defined as the number of additional jobs created by economic growth; this includes jobs in planning and constructing the facility, and sustainable jobs at the facility once it is operational. Indirect and induced job creation will also occur because of direct job and income creation. The socio-economic specialist estimated the number of jobs that will be created during the construction and operational phases:

- The construction phase is expected to create **approximately 26 929 jobs**, including 5 855 direct jobs, 14 122 indirect jobs, and 6 952 induced jobs. Based on the total estimated employment, approximately 16% of jobs are expected to be highly skilled, 38% skilled, and 46% semi-skilled or

unskilled. This breakdown reflects labour-intensive jobs with a diversity of skills typically required during large-scale construction projects.

- The operations are expected to **support a total of 822 jobs annually**, comprising 343 direct jobs, 225 indirect jobs, and 254 induced jobs. Based on the total employment, approximately 17% of the jobs will be highly skilled, 35% skilled, and 48% semi-skilled or unskilled. This reflects the staffing structure typical of mixed-use commercial operations, where a larger proportion of employment opportunities are accessible to lower- and mid-skilled workers, while still accommodating roles requiring specialised expertise.

5.4.2 Production and GDP

Gross Domestic Product (GDP) refers to the value of all final goods and products produced during a one-year period within the boundaries of a specific area, as a direct, indirect, and induced result of activities for/at the precinct during planning, construction, and operation. The socio-economic specialist estimated the total production and GDP that will be generated during the construction and operational phases:

» The construction of the proposed development will generate approximately **R24.201 billion in total production**, with R9.915 billion coming from direct effects, R8.785 billion from indirect effects, and R5.502 billion from induced effects. This increase in output will also contribute to the GDP, with direct effects adding R3.229 billion, indirect effects contributing R3.375 billion, and induced effects generating R2.221 billion, totalling **R8.825 billion in GDP**.

» The operational phase of the proposed development is expected to generate approximately **R691.8 million in total production output per annum**. This includes R307.7 million in direct output from operations, R183.2 million in indirect output through suppliers, and R200.9 million in induced output driven by employee spending. This increase in production is projected to contribute **R322.3 million to GDP annually**, with R166.0 million from direct effects, R75.1 million from indirect effects, and R81.3 million from induced effects.

5.4.3 Public amenity space

The proposed development will include a variety of public amenities such as:

- A minimum 9-metre-wide coastal promenade extending over approximately 750 metres of Granger Bay's shoreline to improve non-motorised coastal access and support recreational activity (e.g., walking, cycling, and leisure use). This promenade will link with the existing Sea Point Promenade and V&A Waterfront public spaces, which will create a regional recreational corridor. To enhance the planned public space, the development will include inclusive access, provide lighting, programming and provide safety designs.
- Spaces (i.e., permanent stairs and sitting areas) to improve access to the coast for local communities, promoting inclusive use of the coastal space and providing for recreational activity (e.g., swimming, kayaking and stand-up paddle boarding).
- Provision of a coastal 'sea park', with tidal pools, a swimming pool and walkways along the breakwater infrastructure. The seawater in the tidal pools will be replenished periodically with seawater pumped from within the revetment.
- A quay with permanent steps to provide a space to bring the community closer to the sea and offers a versatile recreational area to accommodate a variety of activities such as food markets, concerts and theatrical performances. The quay walls will also provide space for power boats

and sailboats. The quay wall will also allow for the installation of temporary walk-on moorings for events during summer and autumn seasons.

The public is entitled to reasonable access to this coastal public property for their use and enjoyment as stipulated in Section 13 of the National Environmental Management: Integrated Coastal Management Act 24 of 2008. Accordingly, the abovementioned coastal public amenities will provide for reasonable access by the public.

5.4.4 Tourism

As a part of one of South Africa's most visited destinations, the proposed mixed-use development at Granger Bay stands to positively influence Cape Town's tourism and visitor economy. By expanding the range of attractions, particularly through the addition of public waterfront space, improved visual aesthetics, enhanced walkability, and increased leisure facilities, the development will further strengthen the V&A Waterfront's role as a leading tourism node.

These additions are likely to extend visitor dwell time and repeat visitation, stimulate local hospitality and retail spending, and increase the area's attractiveness to international and domestic tourists. Indirect benefits may also accrue to Cape Town's brand image as a modern, vibrant, and accessible city, contributing to economic growth in tourism-linked sectors.

5.4.5 Transport

The area is well-served by a range of public and private transport options. The MyCiTi Bus Rapid Transit system offers reliable services connecting the Waterfront to key destinations including the CBD, Table View, Airport, and surrounding suburbs. Minibus taxis and Golden Arrow buses provide additional connectivity for commuters from the Cape Flats, Southern Suburbs, and Northern Suburbs. For those using private vehicles, the surrounding road network ensures efficient access, while pedestrians and cyclists benefit from infrastructure that promotes walkability and non-motorised transport within the Waterfront and its surrounds.

In addition, the site's proximity to key transport hubs such as Cape Town Station (offering Metrorail services) enhances its regional accessibility, allowing for commuter flows from areas as far as Khayelitsha, Mitchells Plain, Bellville, and Strand. The nearby Cape Town International Airport, accessible via the N2, also supports national and international visitor access.

During the construction phase, temporary disruptions to traffic flow are anticipated along key access routes, including Granger Bay Boulevard, Beach Road, and the M61 (Helen Suzman Boulevard). The movement of heavy vehicles and potential partial road closures may lead to increased congestion, particularly during peak hours. To mitigate these impacts, it is proposed that deliveries are scheduled during off-peak hours, and clear signage and communication.

5.4.6 Planning context

The following plan and framework align with the proposed development:

City of Cape Town Comprehensive Integrated Transport Plan (2023 – 2028)

The CITP vision includes efficient access to transport, opportunities related to improved connectivity, financially, socially and environmentally sustainable forms of transport; and that all transport systems should be safe for all users. The CITP principles are pro-public-transport and NMT, connectivity and inclusivity. The V&A Waterfront's overall transport planning approach entails enhancement and

improvement of public transport, in line with the City of Cape Town's transportation planning objectives and policies. To this end, development in Granger Bay will be serviced by a range of transport modes, including MyCiTi, Park & Ride, and micro mobility services, with improved integration between transport modes. Hence, no major access road upgrades are proposed.

Transit Oriented Development Strategic Framework (2016)

In the context of this Strategic Framework, TOD is seen as a planning, design, and implementation approach that can be employed to address inefficiencies in the urban form of the city. The V&A Waterfronts overall transport planning approach entails enhancement and improvement of public transport, in line with City of Cape Town transportation planning objectives and policies, such as the TOD Strategic Framework (2016), which inter alia promotes new transport modes and integration with public transport to improve accessibility for people of all income levels. To this end, development in Granger Bay will be serviced by a range of transport modes, including MyCiTi, Park & Ride, and micro mobility services, with improved integration between transport modes.

5.4.7 Inclusionary Housing

The V&AW intends to broaden the range of households that have access to residential accommodation by offering a greater variety of accommodation types. To this end, a proportion of new floor space (development bulk) in the V&A Waterfront will be allocated for inclusionary housing, which falls under the umbrella of affordable housing, as defined in the 2023 Cape Town Municipal Spatial Development Framework (MSDF). This inclusionary housing is intended to be incorporated within the broader V&AW precinct, as is required by the conditions stipulated in the recent rezoning decision (detailed in Section 4.16.8).

5.5 Governance and Public Participation

Public Participation is a critical informant of environmental assessment. Comprehensive, integrated, and thorough application of public participation facilitates and ensures informed decision-making by the competent authority. Comprehensive public participation ensures that all potential interested and affected parties are identified and notified of the proposed development, giving them an opportunity to register as interested and affected parties. Public consultation will be carried out as outlined in Chapter 7. The aim is to facilitate a transparent and inclusive process and to provide potential I&APs with sufficient information and opportunities to provide comments and participate in the process.

5.6 Long-term Sustainability

5.6.1 Sustainable Development

Sustainable development considers the environment's long-term health and restoration and ensures that it can continue to provide ecological services and benefits to future generations. In summary, sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.

As this proposed development includes land reclamation and will take place near sensitive heritage resources, sustainable development is essential. Sustainable development in relation to the proposed development is outlined in Chapter 2, Section 4.3.6.

5.6.2 Climate Change

Climate change is a key factor for the long-term sustainability of this development, mainly because this development will involve land reclamation and the development of infrastructure near the current shoreline. Therefore, coastal protection infrastructure must be constructed to ensure the protection and long-term viability of the site during extreme weather events, especially with climate change expected to intensify.

Damage to coastal infrastructure from flooding is mainly the result of storm surges, increased tides, strong winds, and increased wave heights; climate change is expected to cause an increase in the frequency and intensity of weather events, storm surges, and climate change-induced sea level rise (Tadesse et al., 2022; Dasgupta, et al., 2009; Rahmstorf 2007). A Climate Change Impact Assessment has been undertaken as part of the EIA stage of the process.

5.6.3 Cumulative Impacts

Marine and Oceanographic Impacts

Cumulative impacts arising from this development, when considered alongside other coastal and marine activities in Table Bay, are assessed in the EIA. These include ongoing urban development, vessel movements, and pollution pressures. The cumulative pressures highlight the importance of coordinated coastal zone management and routine environmental monitoring to safeguard long-term ecosystem health. A Climate Change Impact Assessment has been conducted as part of this EIA phase of the process. *The Phase 1B project is not anticipated to have any direct impacts on the marine and oceanographic environment, as this project is exclusively above the HWW.*

Socio-Economic and Traffic Impacts

The proposed Granger Bay mixed-use development will contribute both positive and negative impacts, which will interact with existing conditions in the surrounding area and other ongoing or planned developments. The project is set to strengthen local economic activity, create jobs, and improve public spaces, particularly in the context of the high-value V&A Waterfront area. These benefits, when considered alongside the wider socio-economic dynamics in Cape Town, are expected to provide significant uplift to the region's economy, particularly in tourism and retail.

The cumulative socio-economic challenges that may arise from this development, especially concerning traffic congestion, infrastructure demand, and potential environmental pressures, are the subject of separate specialist assessments and mitigation measures. *In terms of Phase 1B, negative impacts associated with construction activities may be somewhat compounded depending on the timing of implementation. Positive socio-economic impacts are anticipated to be enhanced during the operational phase of Phase 1B, as this would provide similar socio-economic opportunities associated with a coastal mixed-use development at a smaller scale.*

Visual and Heritage Impacts

The visual and heritage cumulative impacts have been assessed in the heritage and visual impact assessments forming part of the EIA. *Previous heritage approvals have informed the design of the preferred alternative, and additional nearby developments in the area have also been considered. Phase 1B heights and massing is similar overall to this proposed development, with minor visibility from the new view lines of the proposed development and reclamation. For the precinct as a whole, cumulative impacts are anticipated to be medium negative at this stage – however, this rating is*

more representative of a conservative and precautionary approach to the assessment of the visual impacts, acknowledging the lack of architectural detail available at the time of this EIA.

5.7 Coastal public property considerations

Section 7C of the ICMA provides that applications for the reclamation of coastal public property for purposes other than state infrastructure may only be considered in exceptional circumstances, and only where such reclamation is not contrary to the purposes of coastal public property as set out in Section 7A.

In this regard, the circumstances motivating the proposed reclamation are considered to include the following:

(a) Location dependency and absence of reasonable alternatives

The proposed development is inherently location-dependent due to its functional and spatial relationship with the existing V&A Waterfront precinct and the coastline. Sections 4.6 to 4.8 demonstrate that there is no reasonably available terrestrial or previously developed land that can accommodate the proposed use while achieving the same objectives in respect of public access, coastal integration and socio-economic benefit. The need for reclamation therefore arises from site-specific constraints and opportunities.

(b) Context within a highly modified urban coastal environment

The proposed reclamation is located within an intensively developed and previously transformed urban coastal area. The proposal does not represent incremental encroachment into an undeveloped or sensitive coastline and is distinguishable from reclamation proposals in largely natural coastal environments.

(c) Consistency with the purposes of coastal public property (Section 7A of the ICMA)

The proposal has been specifically designed to:

- improve public access to the seashore (Section 7A(a));
- assess impacts on, and protect sensitive coastal ecosystems through the EIA process (Section 7A(b));
- secure the natural functioning of dynamic coastal processes through informed design and mitigation (Section 7A(c)); and
- manage risks associated with dynamic coastal processes and sea level rise (Section 7A(d)).

(d) Ability to manage environmental and coastal risks

The comprehensive Scoping and EIA process, including specialist coastal, marine and climate-related studies, provides a mechanism to identify, assess and mitigate potential risks associated with reclamation. This provides an opportunity for decision-makers at national and provincial level to confirm whether the proposed development is consistent with the purposes of coastal public property.

On this basis, it is submitted that the proposed reclamation meets the threshold of exceptional circumstances contemplated in Section 7C of the ICMA, subject to confirmation through the EIA phase and the Minister's consideration of pre-approval.

5.8 Conclusions

The need for and the desirability of a proposed development forms the basis of this EIA. This chapter, read with Chapter 2, sets out the implications of the proposed development in the context of the various applicable spatial planning tools and policy, and establishes a framework for the consideration of the other key aspects of need and desirability, for further consideration during the EIA. The proposal is substantially in alignment with local and regional planning policies and frameworks, and its negative impacts will be fully assessed, and a recommendation on the need and desirability will be made in the EIA Report.

CHAPTER 6

IMPACT ASSESSMENT

July 2026

Amended Environmental Impact Assessment Report

INFINITY ENVIRONMENTAL

6 IMPACT ASSESSMENT

This chapter presents the environmental impacts identified and assessed for the proposed development, including the impacts assessed in the specialist studies. See Appendix D for the specialist impact assessment reports.

6.1 Additional Information

This Chapter has been updated with the following information:

- Impacts assessed in the Construction Noise Impact Assessment;
- Updated Transport Impact Assessment;
- Updated Visual Impact Assessment;
- Updated Oceanography Impact Assessment;
- Cumulative impacts have been expanded on with specific mention of the Phase 1B project.

6.2 Methodology

This section outlines the impact assessment methodology for the EIA and its specialist studies, based on the DEA 2006 Guideline on Assessment of Alternatives and Impacts as well as the Specialist Protocols (GN R320 and R1130 of 2020).[§§]

Impacts are defined as the changes in an environmental parameter that result from undertaking an activity. The change is the difference between the effect on the environmental parameter where the activity is undertaken, compared to that where the activity is not undertaken. Impacts occur over a specific period and within a defined area. Impacts may occur during the construction, post-construction, and decommissioning phases of the development, and may be direct, indirect, and/or cumulative in nature.

- **Direct impacts** are impacts that are **caused directly by the activity** and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.

- **Indirect impacts** of an activity are indirect or **induced changes that may occur as a result of the activity** (e.g., the reduction of water in a stream that supplies water to a reservoir that supplies water to the activity). These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken, or which occur at a different place as a result of the activity.

- **Cumulative impacts**, in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, **considered together with the impact of activities associated with that activity**, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

[§§] DEAT 2006. Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Impact Assessment Regulations, 2006.

In order to identify potential impacts (both positive and negative) it is important that the nature of the proposed projects is well understood so that the impacts associated with the projects can be assessed. The process of identification and assessment of impacts has in general included:

- Determining the current environmental conditions in sufficient detail so that there is a baseline against which impacts can be identified and measured;
- Determining future changes to the environment that will occur if the activity does not proceed;
- Developing an understanding of the activity in sufficient detail to understand its consequences; and
- The determination of significant impacts which are likely to occur if the activity is undertaken.

As per the DEAT Guideline 5: Assessment of Alternatives and Impacts the following methodology was be applied to the predication and assessment of impacts. Potential impacts are rated in terms of their:

- **Spatial extent** – The size of the area that will be affected by the impact:
    - Site specific;
    - Local (<2 km from site);
    - Regional (within 30 km of site);
    - National; or
    - International (e.g. Greenhouse Gas emissions or migrant birds).

- **Intensity** – The anticipated severity of the impact:
    - High (severe alteration of natural systems, patterns or processes);
    - Medium (notable alteration of natural systems, patterns or processes); or
    - Low (negligible alteration of natural systems, patterns or processes).

- **Duration** – The timeframe during which the impact will be experienced:
    - Temporary (less than 1 year);
    - Short term (1 to 6 years);
    - Medium term (6 to 15 years);
    - Long term (the impact will cease after the operational life of the activity); or
    - Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient).

- **Reversibility** – the extent to which the impacts are reversible assuming that the project has reached the end of its life cycle (decommissioning phase):
    - High reversibility of impacts (impact is highly reversible at end of project life);
    - Moderate reversibility of impacts;
    - Low reversibility of impacts; or
    - Impacts are non-reversible (impact is permanent).

- **Irreplaceability of Resource Loss** – the degree to which the impact causes irreplaceable loss of resources assuming that the project has reached the end of its life cycle (decommissioning phase):
    - High irreplaceability of resources (project will destroy unique resources that cannot be replaced);
    - Moderate irreplaceability of resources;
    - Low irreplaceability of resources; or

Resources are replaceable (the affected resource is easy to replace/rehabilitate).

Using the criteria above, the impacts are further assessed in terms of their:

- **Probability** – The probability of the impact occurring:
    - Improbable (little or no chance of occurring);
    - Probable (<50% chance of occurring);
    - Highly probable (50 – 90% chance of occurring); or
    - Definite (>90% chance of occurring).

- **Significance** – Will the impact cause a notable alteration of the environment?
    - Low to very low (the impact may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making);
    - Medium (the impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated); or
    - High (the impacts will result in major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision-making).

- **Status** – Whether the impact on the overall environment will be:
    - Positive - environment overall will benefit from the impact;
    - Negative - environment overall will be adversely affected by the impact; or
    - Neutral - environment overall not be affected.

- **Confidence** – The degree of confidence in predictions based on available information and specialist knowledge:
    - Low;
    - Medium; or
    - High.

Impact mitigation measures have been prepared in line with the mitigation hierarchy – i.e., **avoid, minimise, restore, offset**. The DEA 2013 guideline on Need and Desirability formalises this hierarchy as follows:

» Firstly, alternatives must be investigated to avoid negative impacts altogether.
» Secondly, after it has been found that the negative impacts cannot be avoided, alternatives must be investigated to reduce (mitigate and manage) unavoidable negative impact.
» Thirdly, alternatives must be investigated to remediate (rehabilitate and restore)
» Fourthly, unavoidable impacts that remain after mitigation and remediation must be compensated for through investigating options to offset the negative impacts.

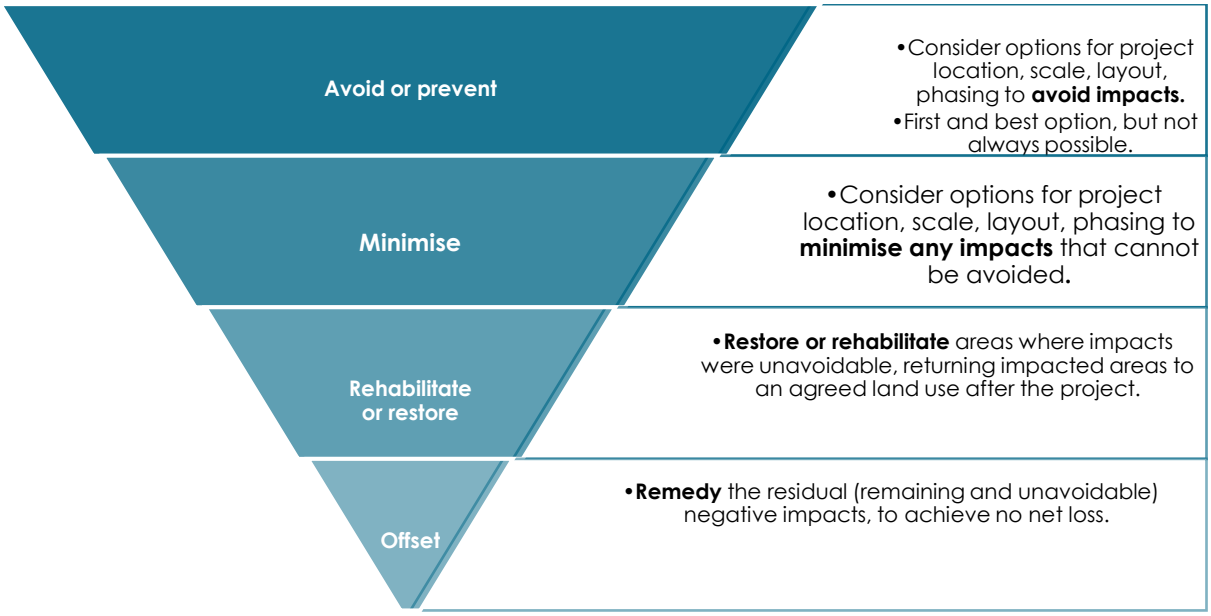


Figure 6-1. Mitigation hierarchy (based on DEA 2013 guideline on Need and Desirability)

Mitigation measures are specified where relevant and are also incorporated in an **Environmental Management Programme** (Appendix D), which includes quantifiable standards for measuring and monitoring mitigatory measures and enhancements and a programme for monitoring and reviewing the recommendations to ensure their ongoing effectiveness.

Other aspects taken into consideration in the assessment of impact significance are:

» The development phase at which they are anticipated – impacts are evaluated for the Construction (C) and Operation phases (O) of the development;
» Impacts are evaluated with and without mitigation in order to indicate the effectiveness of mitigation measures in reducing the significance of a particular impact; and
» The impact evaluation, where possible, takes into consideration the cumulative effects associated with this development in relation to other changes in the receiving environment and surrounding area.

Decommissioning impacts are not considered due to the nature of the proposed development. The issues and impacts described in the following section are considered for each of the development alternatives proposed to date, which include:

- Alternative 1: Proposed development
- Alternative 2: No-go alternative

Note on referencing
Although in-text citations are not used in the following sections, where applicable these sections are summaries of, and in some cases direct quotations from, the relevant specialist reports, which are themselves included in their entirety in Appendices B1 to B9.

6.3 Construction-phase impacts

6.3.1 Marine Ecosystem Impacts: Disturbance of intertidal and subtidal artificial habitat

*A Marine Impact Assessment was conducted by Amy Wright, Megan Jackson, Lily Bovim and Adam Rees of Anchor Environmental Consultants (Pty) Ltd to assess the impact of the proposed development on the surrounding marine ecosystems (**refer to Appendix B3**). A specialist study by Dr Simon Elwen of SeaSearch informed the assessment of impacts on cetaceans and other marine mammals (**refer to Appendix B4**).*

Construction will result in the direct loss of artificial rocky shore habitat, specifically that of the Granger Bay dolosse, and adjacent subtidal sandy and reef habitat (NBA 2018 Cape Mixed Shore ecosystem). This development will result in direct mortality of these communities within the project footprint during the construction phase. Soft sediment habitats will be lost. Additional artificial rocky shore habitat will exist after construction, and recovery of these rocky shore assemblages will occur primarily through immigration from adjacent areas. As such, while the proposed development will have site-specific impacts on subtidal habitats, the development is anticipated to result negligible alterations in natural system function. Since this disturbance will not result in an overall net loss of rocky shore habitat, this impact is rated as very low significance.

Mitigation

While mitigation measures do not reduce the overall significance of the impact, such measures should include rehabilitation of the disturbed area immediately following construction by removing all artificial materials not related to the permanent fixture of the development.

Essential mitigation measures include:

- Limiting the duration of construction activities in the coastal zone; and
- Constraining the spatial extent of impacts to the minimum required.

Impact Assessment

The following table presents the significance rating of the disturbance of the proposed development on rocky shores, with and without the implementation of mitigation measures.

Table 6-1: Disturbance of intertidal and subtidal artificial habitat on rocky habitats

Criteria	Preferred Alternative	No-Go
Description	**Disturbance of intertidal and subtidal artificial habitat on rocky habitats**	
Status (Nature)	**Negative**	None
Extent	**Local:** <2 km from site	No change to baseline conditions.
Duration	**Short-term:** Less than 5 years	
Intensity	**Low:** The disturbance will not result in an overall net loss of rocky shore habitat.	
Reversibility	**High:** Impacts are fully reversible for hard subtidal habitat.	
Irreplaceability	**Low:** Natural recovery anticipated to occur relatively quickly (within two years).	
Probability	**Definite:** > 90% chance of occurring.	
Indirect	**Very Low:** Not anticipated to significantly influence the ecology of the area.	
Cumulative	**Medium**	
Confidence	**High**	

Criteria	Preferred Alternative	No-Go
Description	**Disturbance of intertidal and subtidal artificial habitat on rocky habitats**	
Significance (before mitigation)	**Very Low, Negative**	
Mitigation/Enhancement Measures	Essential mitigation measures include: • Limiting the duration of construction activities in the coastal zone; and • Constraining the spatial extent of impacts to the minimum required.	
Significance (after mitigation)	**Very Low, Negative**	**None**

The following table presents the significance rating of the disturbance of the proposed development on soft sediment habitat, with and without the implementation of mitigation measures.

Table 6-2: Disturbance of intertidal and subtidal artificial habitat on soft sediment habitats

Criteria	Preferred Alternative	No-Go
Description	**Disturbance of intertidal and subtidal artificial habitat, and loss of subtidal sediment habitats**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local:** <2 km from site	No change to baseline conditions.
Duration	**Short-term:** Less than 5 years	
Intensity	**Low:** Habitat loss limited to development footprint.	
Reversibility	**Permanent:** Impacts are irreversible for the soft subtidal habitat loss.	
Irreplaceability	**Low:** Natural recovery anticipated to occur relatively quickly (within two years).	
Probability	**Definite:** > 90% chance of occurring.	
Indirect	**Very Low:** Not anticipated to significantly influence the ecology of the area.	
Cumulative	**Medium**	
Confidence	**High**	
Significance (before mitigation)	**Very Low, Negative**	
Mitigation/Enhancement Measures	Essential mitigation measures include: • Limiting the duration of construction activities in the coastal zone; and • Constraining the spatial extent of impacts to the minimum required.	
Significance (after mitigation)	**Very Low, Negative**	**Neutral**

6.3.2 Marine Ecosystem Impacts: Impacts of construction on West Coast Rock Lobster

Refer to the Marine Impact Assessment – Appendix B3 for more details and references.

The proposed harbour development at Granger Bay will involve the removal and alteration of existing dolosse to accommodate new infrastructure. This activity is expected to result in the displacement, injury, or mortality of any West Coast Rock Lobsters that currently inhabit the dolosse. The impact will be intense, highly localised, and concentrated over the short-term construction period. Population-level impacts on rock lobster are unlikely, given the species' broader distribution and mobility. Similar artificial rocky shore habitat will exist after construction, and recovery of these populations will occur primarily through immigration from adjacent areas. The relatively small footprint of direct disturbance (total area of 0.032 km^2) and 'short-term' nature of construction activities (two years) will result in the impact being felt over a limited spatial scale. The impact of this construction phase impact on rock lobster populations is assessed to be of low significance prior to mitigation.

Mitigation

While limited mitigation is available to reduce the significance of this impact, recommended mitigation to reduce the probability of immediate impacts includes phased removal, and potential translocation of individuals from high-density zones.

Impact Assessment

The following table presents the significance rating, with and without the implementation of mitigation measures.

Table 6-3: Impacts of construction on West Coast Rock Lobster.

Criteria	Preferred Alternative	No-Go
Description	**Impacts of construction on West Coast Rock Lobster**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local:** <2 km from site	No change to baseline conditions.
Duration	**Short-term:** 1 to 6 years	
Intensity	**High:** Displacement, injury, or mortality of numerous West Coast Rock Lobsters that currently inhabit the dolosse due to construction activities.	
Reversibility	**High:** Impacts are fully reversible.	
Irreplaceability	**Moderate:** Natural recovery anticipated within a number of years (unknown but assumed to be within two to three years).	
Probability	**Definite:** >90% chance of occurring	
Indirect	Temporary disturbance to ecosystem functioning.	
Cumulative	**Medium**	
Confidence	**High**	
Significance (before mitigation)	**Low, Negative**	
Mitigation/Enhancement Measures	**Essential mitigation measures:** • **Constrain spatial extent of impacts to the minimum required.** Recommended mitigation measures: • Implement phased removal, and potential translocation of individuals from high-density zones.	
Significance (after mitigation)	**Low, Negative**	**Neutral**

6.3.3 Marine Ecosystem Impacts: Disturbance to pelagic open water habitats

Refer to the Marine Impact Assessment – Appendix B3 for more details and references.

Construction will result in the temporary disturbance of pelagic habitat (NBA 2018 Cape Bay ecosystem) within the footprint of the Granger Bay development. Fish and other mobile pelagic species that utilise the habitat will be able to move to adjacent areas (impacts on marine mammals are assessed separately). Considering that the area is generally already disturbed by constant vessel movement the pelagic habitat affected will be relatively small in comparison to adjacent areas of similar habitat in Table Bay.

The construction activities will likely result in the disturbance of benthic sediments, leading to their resuspension into the water column, which may result in elevated turbidity and associated impacts. Released sediment can also introduce excess nutrients into the surrounding waters. Nutrient enrichment can lead to eutrophication, promoting algal blooms and reducing oxygen levels in the water. However, field surveys show that the sediments of Granger Bay are coarse with a low proportion of mud, and low total organic content (16.-2.4% compared to 2.5-5.3% elsewhere in Table Bay) (Figure 3.22, see Section 3.5.4 of the MIA). It is unlikely therefore that there is a high risk of nutrient

remobilisation as a result of the proposed development. Likewise, the low trace metal concentrations within the Granger By sediments mean that there is a very low risk of harmful trace metal remobilisation into the system. Given the local extent and low intensity, this impact is rated as of very low significance prior to mitigation.

Mitigation

Essential mitigation measures include:

» Limiting the duration of construction activities in the coastal zone; and
» Constraining the spatial extent of impacts to the minimum required.

Impact Assessment

The following table presents the significance rating, with and without the implementation of mitigation measures.

Table 6-4: Disturbance to pelagic open water habitats

Criteria	Preferred Alternative	No-Go
Description	**Disturbance to pelagic open water habitats**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local:** <2 km from site	No change to baseline conditions.
Duration	**Short-term:** 1 to 6 years	
Intensity	**Low:** Natural recovery is expected to occur within one year (high reversibility, low irreplaceability).	
Reversibility	**High:** Impacts are fully reversible.	
Irreplaceability	**Very Low:** Natural recovery will occur very quickly (within one year).	
Probability	**Probable:** <50% chance of occurring	
Indirect	**Low:** Released sediment can also introduce excess nutrients into the surrounding waters. However, field surveys show that the sediments of Granger Bay are coarse with a low proportion of mud, and low total organic content. It is unlikely therefore that there is a high risk of nutrient remobilisation as a result of the proposed development.	
Cumulative	**Medium**	
Confidence	**High**	
Significance (before mitigation)	**Very Low, Negative**	
Mitigation/Enhancement Measures	**Essential mitigation measures:** **• Limit duration of construction activities in the coastal zone.** **• Constrain spatial extent of impacts to the minimum required.**	
Significance (after mitigation)	**Very Low, Negative**	**Neutral**

6.3.4 Effects of construction waste generation and disposal on marine ecosystems

Refer to the Marine Impact Assessment – Appendix B3 for more details and references.

During the construction of the revetments, walls and breakwaters, offcuts and fragments of construction materials used or brought to site during construction, may enter the water. Objects which are particularly detrimental to aquatic fauna include plastic bags and bottles, pieces of rope and small plastic particles. Large numbers of aquatic organisms are killed or injured daily by becoming entangled in debris or as a result of the ingestion of small plastic particles. The impact on certain forms of marine life by floating or submerged solid materials can be substantial. Most at risk in this case include seabirds, mammals and fish, including possibly rare or even endangered species.

Poor housekeeping practises can also have impacts on water quality. The construction activities will also involve the presence of vehicles below the high-water mark, and spills or improper disposal of waste can lead to water contamination, posing risks to aquatic life and human health. Pollutants can bioaccumulate in the food chain and have long-lasting impacts on ecosystems.

Mitigation

- Inform and train all staff about sensitive marine species and the responsible disposal of construction waste. This training must be integrated into toolbox talks or onsite awareness sessions to ensure that waste management practices are understood and followed diligently. Additionally, contractors must prepare a method statement outlining specific waste management procedures, which must be approved by the resident engineer before construction activities commence.
- Suitable handling and disposal protocols must be clearly explained, and sign boarded.
- Reduce, reuse, recycle.
- Waste disposal at licensed landfill sites by qualified contractors is mandatory, with proof of disposal submitted to the appointed Environmental Officer. Waste management certification must be obtained, and detailed records of all stored and disposed waste, including quantity, nature, and fate, must be maintained for auditing purposes.
- Adequate sanitary facilities and ablutions must be provided for all personnel throughout the project area. Enforcement of facility usage and cleanliness is crucial.

Impact Assessment

The following table presents the significance rating, with and without the implementation of mitigation measures.

Table 6-5: Effects of construction waste generation and disposal on marine ecosystem

Criteria	Preferred Alternative	No-Go
Description	**Effects of construction waste generation and disposal on marine ecosystem**	
Status (Nature)	**Negative**	None
Extent	**Regional:** Within 30 km of site	No change to baseline conditions.
Duration	**Long-term:** The impact will cease after the operational life of the activity.	
Intensity	**Low**: Negligible alteration of natural systems, patterns or processes.	
Reversibility	**Moderate**: Depending on the type, waste is difficult to retrieve or clean up once it has entered the ocean.	
Irreplaceability	**Moderate:** Depending on the vulnerability of the species affected, marine biodiversity loss will be irreplaceable (particularly of endangered species).	
Probability	**Probable:** <50% chance of occurring	
Indirect	**Medium**	
Cumulative	**Medium**	
Confidence	**High**	
Significance (before mitigation)	**Medium, negative**	
Mitigation/Enhancement Measures	As above	
Significance (after mitigation)	**Very Low, negative**	**None**

6.3.5 Effects of construction related pollution on marine ecosystems

Refer to the Marine Impact Assessment – Appendix B3 for more details and references.

Granger Bay revetment construction will involve traffic on the breakwater by heavy vehicles and machinery, as well as potential manoeuvring of vessels. The risk of spillage of a variety of hazardous substances may occur during the use of heavy machinery, construction vehicles and construction vessels. This impact can be mitigated successfully if authorities implement a rigorous environmental management and control plan to limit ecological risks from accidents.

In terms of the material to be used for the construction of the revetment and land reclamation activities, quarried rock and concrete will be used which is largely inert and poses minimal pollution risk to the marine environment. Introducing specialised admixtures and element shapes to encourage growth of marine life and the formation of biodiverse marine habitats, will be considered wherever possible. All quarried rock will comply with PRDW's generic rock specification (PRDW 2019) which is based on the Rock Manual (CIRIA et al. 2007) and includes requirements to manage rock cleanliness (absence of soil or quarry dust), reducing the likelihood of the quarried rock introducing suspended sediments into the marine environment.

Construction of harbour infrastructure will likely generate localised increases in suspended sediments due to dredging, excavation, and placement of construction materials. These elevated suspended solids may temporarily reduce water clarity and cause limited smothering or disturbance of nearby benthic habitats and marine organisms; however, such effects are typically confined to the construction footprint and immediate surroundings, and are short-term provided works are properly managed.

Mitigation

Mitigation measures should therefore focus on minimising sediment release and spread through phased construction, use of turbidity or silt curtains where feasible, careful handling and placement of materials, and stabilisation of reclaimed or disturbed areas to ensure impacts remain localised and temporary. All fuel and oil must be stored with adequate spill protection, and no leaking vehicles should be permitted on site. Intentional disposal of any substance into the aquatic environment is strictly prohibited, while accidental spillage must be prevented, contained and reported immediately.

After mitigation, the impact of construction related pollution is considered to be of very low significance resulting in temporary increases in turbidity and sediment deposition in adjacent marine areas.

Impact Assessment

The following table presents the significance rating, with and without the implementation of mitigation measures.

Table 6-6: Construction related pollution impacts on marine biota

Criteria	Preferred Alternative	No-Go
Description	**Construction related pollution impacts on marine biota**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local:** <2 km from site	
Duration	**Medium-term:** 6 to 15 years	

Criteria	Preferred Alternative	No-Go
Description	**Construction related pollution impacts on marine biota**	
Intensity	**High:** Construction pollution, particularly involving hydrocarbons or toxic chemicals, can have a long-lasting detriment on the marine environment.	No change to baseline conditions.
Reversibility	**Moderate**: Depending on the substance spilled, remediation of contamination and/or pollution from construction activities may be possible, but difficult. Some portion of the spilled substance will always remain in the ecosystem.	
Irreplaceability	**Moderate:** Depending on the vulnerability of the species affected, marine biodiversity loss will be irreplaceable (particularly of endangered species).	
Probability	**Probable:** <50% chance of occurring	
Indirect	**Low**	
Cumulative	**Medium**	
Confidence	**High**	
Significance (before mitigation)	**Low, negative**	
Mitigation/Enhancement Measures	See above	
Significance (after mitigation)	**Very Low, negative**	**Neutral**

6.3.6 The effect of increased noise and vibration from construction on marine organisms (invertebrates, fish, birds)

Refer to the Marine Impact Assessment – Appendix B3 for more details and references.

Specific to this development, the excavation of existing rock and soil (especially when undertaken within the intertidal or subtidal zone using heavy machinery) can introduce moderate levels of underwater noise. These sounds may cause temporary avoidance behaviour in fish and marine mammals (noise impacts to cetaceans are assessed separately in Table 6-9.

Sources of noise and vibration

The dumping of rock into the sea, particularly when involving large rocks or dolosse, can produce short bursts of intense, low-frequency underwater sound as the material impacts the seabed. If conducted from height or involving heavy volumes, these impulsive sounds can travel substantial distances underwater. The subsequent shaping of dumped rock using excavators adds a layer of continuous mechanical noise, although generally of lower intensity. Together, these activities could lead to the temporary displacement of marine species and changes to local habitat use.

The placing of pre-cast concrete elements into the water also produces underwater sound, primarily as broad-spectrum impact noise when the elements contact the water or seabed. Though not as loud or harmful as impact piling[***], this noise can still cause localized disturbance. Finally, casting of in-situ concrete for walkways, pools, or other structures usually generates low levels of underwater noise, unless vibrating equipment or pumps are used in close proximity to or directly within the water. Vibratory compactors, if used on in-water platforms or for submerged formwork, may transmit low-frequency vibration into the surrounding water column and sediment. While the associated risks are minor, they could still cause brief behavioural changes in sensitive marine species.

[***] *The previous version of the EIA considered the possibility of impact piling as part of the construction phase, however it has been confirmed by the coastal engineers that this will not be required.*

Noise propagation

Given the scale of this construction project, it is likely that noise levels will exceed 120 dB at times when industrial machinery, such as jackhammers, are used (130dB). Source volumes of 130 dB will dissipate below disturbance thresholds at approximately 675 metres from the source. However, such loud construction is likely to be intermittent and it is more likely that typically construction noise will top out at approximately 120 dB, meaning that noise levels for the proposed construction site are estimated to fall below disturbance levels of 70 dB at approximately 300 m from the source, with any fauna present inside of these areas likely experiencing noise disturbance.

Both mobile fish and foraging seabirds are expected to avoid the sound source should it reach levels sufficient to cause discomfort. The area is already highly impacted by human activities due to the proximity to the Port of Cape Town, Oceana Power Boat Club slipway for small power vessels and the Waterclub/Granger Bay marina for medium sized private vessels.

Mitigation Measures

Noise emissions from mobile and fixed equipment should be subject to periodic checks as part of regular maintenance programmes to allow for detection of any unacceptable increases in noise. After mitigation is considered, the impact of noise and vibration on the marine environment is considered insignificant.

Impact Assessment

Given the duration of the impact (up to two years of total construction time, but intermittent noise sources), and the anticipated area of impact (localised, within 1 km of the site) the impact of noise disturbance on invertebrates, fish and avifauna is assessed to be of very low significance before mitigation. The following table presents the significance rating, with and without the implementation of mitigation measures. Refer also to section 6.3.9, which notes that the area is already subject to various existing sources of noise, contributing to a level of passive mitigation in the form of habituation.

Table 6-7: The effect of increased noise and vibration from construction on marine organisms (invertebrates, fish, birds).

Criteria	Preferred Alternative	No-Go
Description	**The effect of increased noise and vibration from construction on marine organisms (invertebrates, fish, birds)**	
Status (Nature)	**Negative**	None
Extent	**Local:** <2km from the site	No change to baseline conditions.
Duration	**Short-term:** 1 to 6 years	
Intensity	**Low:** Intermittent noise sources throughout construction in an existing urban area.	
Reversibility	**High:** Impacts are fully reversible	
Irreplaceability	**Low:** Natural recovery will occur relatively quickly (within two years).	
Probability	**Definite:** >90% chance of occurring	
Indirect	**Low:** These sounds may cause temporary avoidance behaviour in fish, marine mammals and seabirds. Extreme instances may result in physical harm to seabirds in the vicinity.	
Cumulative	**Medium**	
Confidence	**Medium**	
Significance (before mitigation)	**Very low, negative**	

Criteria	Preferred Alternative	No-Go
Description	**The effect of increased noise and vibration from construction on marine organisms (invertebrates, fish, birds)**	
Mitigation/Enhancement Measures	**Essential mitigation measures:** • **Subject mobile equipment, vehicles and power generation equipment to noise tests at commencement and periodically throughout the construction phase.**	
Significance (after mitigation)	**Insignificant, negative**	**None**

6.3.7 Impacts of increased vessel presence on marine mammals

Refer to the Marine Impact Assessment – Appendix B3, and Marine Mammal Assessment – Appendix B4 for more details and references.

The Granger Bay area is already subject to a significant level of boat traffic in the area (both recreational and commercial vessels), as it lies between three harbours/slipways (the Ocean Power Boast Club, the Port of Cape Town, and the Granger Bay marina). It is anticipated therefore that the presence of general small construction support vessels in the area is unlikely to represent a significant impact on the resident dolphins or other species of cetaceans. Impacts are anticipated to be larger should a large vessel or barge be installed (such as for a crane).

Mitigation Measures

Impacts are rated as of very low significance with mitigation. Mitigation measures include:

- Vessels used must be driven in a slow and responsible manner, keep gear changes and acceleration to a minimum to minimise rapid changes in noise levels.
- A lookout must be kept for dolphins and whales at all times and groups should be avoided where possible.
- If any impacts are observed (vessel strike, entanglement, strong avoidance responses) these should be reported to the relevant environmental authority as soon as possible (e.g. DFFE).

Impact Assessment

The following table presents the significance rating, with and without the implementation of mitigation measures.

Table 6-8: Impact of increased vessel presence on marine mammals

Criteria	Preferred Alternative	No-Go
Description	**Impact of increased vessel presence on marine mammals**	
Status (Nature)	**Negative**	None
Extent	**Local:** <2km from the site	No change to baseline conditions.
Duration	**Short-term:** 1 to 6 years	
Intensity	**High:** Increased risk of vessel strikes	
Reversibility	**Moderate:** Impacts are partially reversible	
Irreplaceability	**Moderate:** Return of the resident populations of marine mammals is likely, but species' response is unpredictable.	
Probability	**Definite:** >90% chance of occurring	
Indirect	**Low:** Potential long-term avoidance, although unlikely.	
Cumulative	**Medium**	
Confidence	**High**	
Significance (before mitigation)	**Low, negative**	
Mitigation/Enhancement Measures	As above	

Criteria	Preferred Alternative	No-Go
Description	**Impact of increased vessel presence on marine mammals**	
Significance (after mitigation)	**Very low, negative**	**None**

6.3.8 Impact of underwater noise on marine mammals

Refer to the Marine Impact Assessment – Appendix B3, and Marine Mammal Assessment – Appendix B4 for more details and references.

Receptor sensitivity to underwater noise

Cetaceans are highly acoustically orientated and reliant on sound channels for feeding, social communication and orientation within their environment, and are thus particularly vulnerable to the impacts of human generated sounds. The impacts of noise disturbance on cetaceans include changes in vocalization, respiration rate, swim speed, migration routes, diving and foraging behaviour, physical and auditory damage (either temporary or permanent) and in extreme cases, death and/or strandings. In the long term, exposure to low-frequency noise may be a chronic cause of stress.

The hearing sensitivity of cetaceans varies considerably between taxonomic groups — large baleen whales are more sensitive to lower frequency sounds that overlap their vocalisation frequencies (mostly below 10 kHz), while dolphins are more sensitive to higher frequency sounds (especially above 1000 Hz). Heaviside's dolphins have higher sensitivities at frequencies above 80 kHz.

Underwater noise sources

Underwater noise emissions for rock dumping activities are low compared to vessel propulsion noise and pile driving. The majority of these sounds will be low frequency (< 1000 Hz) which by their nature travel well through the water so may be detectable at longer distances. Given the general low frequency nature of these types of sounds, it is anticipated that impacts will be greater for baleen whales than on the dolphins in the area. Existing reports suggest that noise from rock dumping is lower than that typical from boat engines, so direct impacts on hearing thresholds are unlikely. The most likely response is a startle and or avoidance response from animals in the area. It is anticipated that underwater noise will represent the impact of the largest spatial scale (hundreds of meters out to sea from the site during the construction phase).

Mitigation Measures

Impacts are rated as of very low significance with mitigation, which includes:

- Before engaging in any rock dumping or similar actions where material is dumped directly into the ocean, ensure that no baleen whales are within ~500 m of the impact site (in the absence of direct measures of sound levels and hearing thresholds, 500 m is widely used as a typical distance for safe avoidance of noise impacts). As far as possible, ensure no dolphins are within 500 m of the impact site. A dedicated marine mammal observer should be used for these phases of work.
- Ensure all machinery is in good working order to reduce in in-air noise levels and transmission into the marine environment.
- Where rock placement/dumping/construction is planned - aim to work from the ocean space backwards towards shore to create a physical barrier to sound in the initial stages of work, then all other fill work will be effectively 'on land'.

Impact Assessment

The following table presents the significance rating, with and without the implementation of mitigation measures.

Table 6-9: Impact of underwater noise on marine mammals

Criteria	Preferred Alternative	No-Go
Description	**Impact of underwater noise on marine mammals**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local:** <2km from the site	No change to baseline conditions.
Duration	**Short-term:** 1 – 6 years	
Intensity	**High:** Affects cetaceans' acoustic orientation.	
Reversibility	**Moderate:** Impacts are partially reversible.	
Irreplaceability	**Moderate:** Return of the resident populations of marine mammals is likely, but species' response is unpredictable.	
Probability	**Definite:** >90% chance of occurring	
Indirect	**Low**: Potential long-term avoidance, although unlikely given existing conditions.	
Cumulative	**Medium**	
Confidence	**High**	
Significance (before mitigation)	**Low, negative**	
Mitigation/Enhancement Measures	As above	
Significance (after mitigation)	**Very low, negative**	**Neutral**

6.3.9 Noise and vibration impacts of the reclamation and in-water marine construction

*A Construction Noise Impact Assessment was conducted by Demos Dracoulides of DDA Environmental Engineers to assess the impact of the construction phase of the proposed development on the surrounding ambient noise levels (**refer to Appendix B10**).*

Construction noise predictions were undertaken to assess the potential short-term noise impacts associated with the proposed marine reclamation works. As the construction programme will progress across different areas of the site, the location of the active work area will vary throughout the construction period. The distance between the active construction activities and surrounding sensitive receptors therefore changes over time, resulting in varying noise exposure.

The three construction scenarios were selected to represent the different positions of the active construction work face as it progresses. Collectively, these scenarios represent the worst-case construction noise conditions at the surrounding sensitive receptors during the various phases of construction. These scenarios include the transport of material and rock placement location along haul routes identified in the TIA (Motion, 2026). Note that the scenarios are presented in the same order as presented in the NIA, but this order does not necessarily reflect the phasing of the construction programme (discussed in Section 2.2.1).

Sources of Noise and Vibration for Construction Scenario 1

Construction Scenario 1 represents the initial phase of the marine works, during which construction activities are concentrated on the western breakwater, the replacement slipway and the adjacent revetment. As these activities are located closest to the Waterclub precinct, this scenario represents the highest potential construction noise exposure for the nearest residential receptors. Particular attention has been paid to noise impacts experienced at the four buildings closest to the site boundary, namely the Dover, Elstree, Calais and Biscay blocks (Figure 6-8).

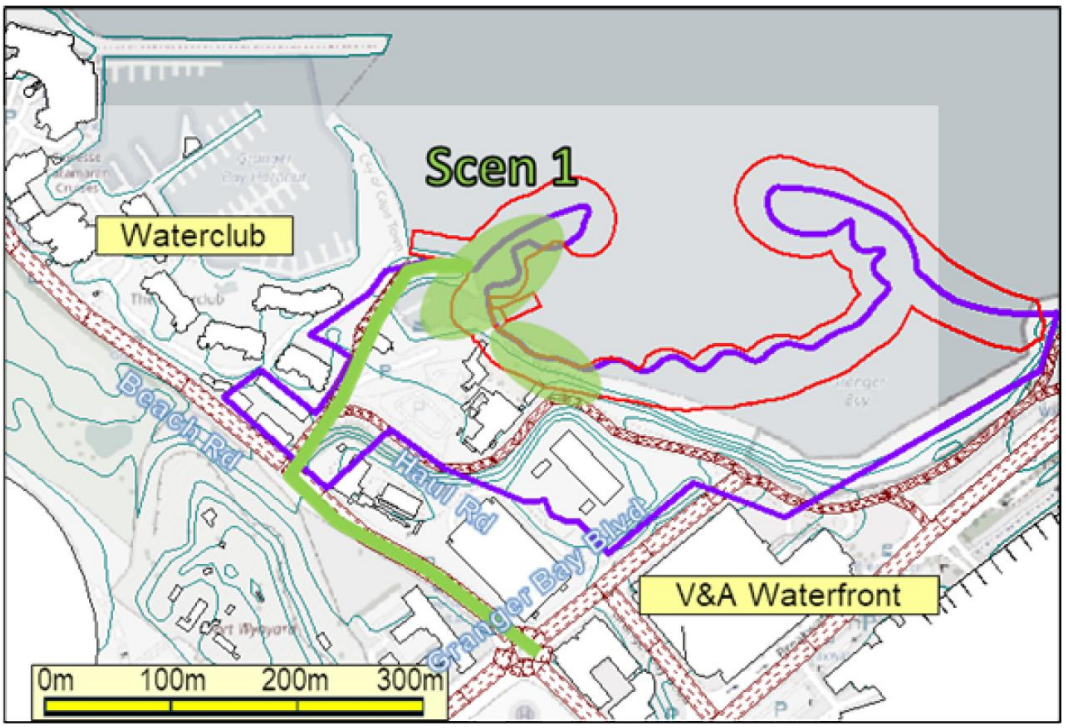


Figure 6-2: Construction Scenario 1: Western breakwater, new slipway and adjacent revetment and associated activities.

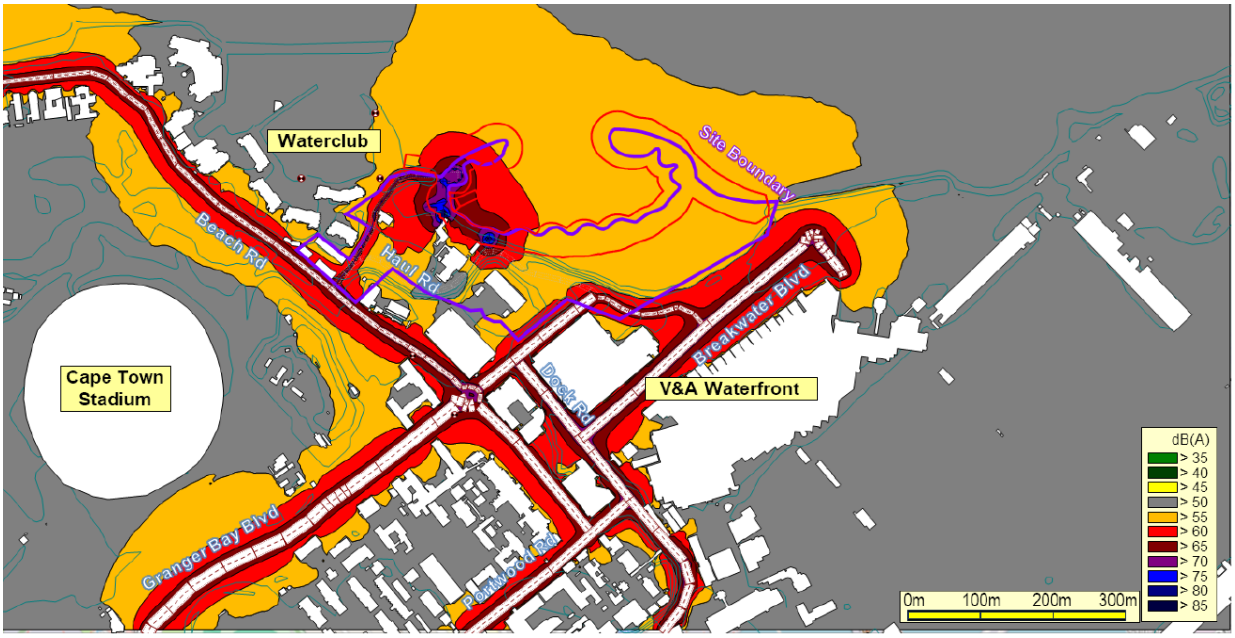


Figure 6-3: Predicted Cumulative Noise Levels for Construction Scenario 1 (incl. traffic, ambient and construction noise)

Sources of Noise and Vibration for Construction Scenario 2

During this construction phase, the principal construction focus on the centre of the reclamation area. As a result, the active work face is located further from the nearest residential land uses, increasing the separation distance to the sensitive receptors and reducing the direct contribution of the construction activities to ambient noise.

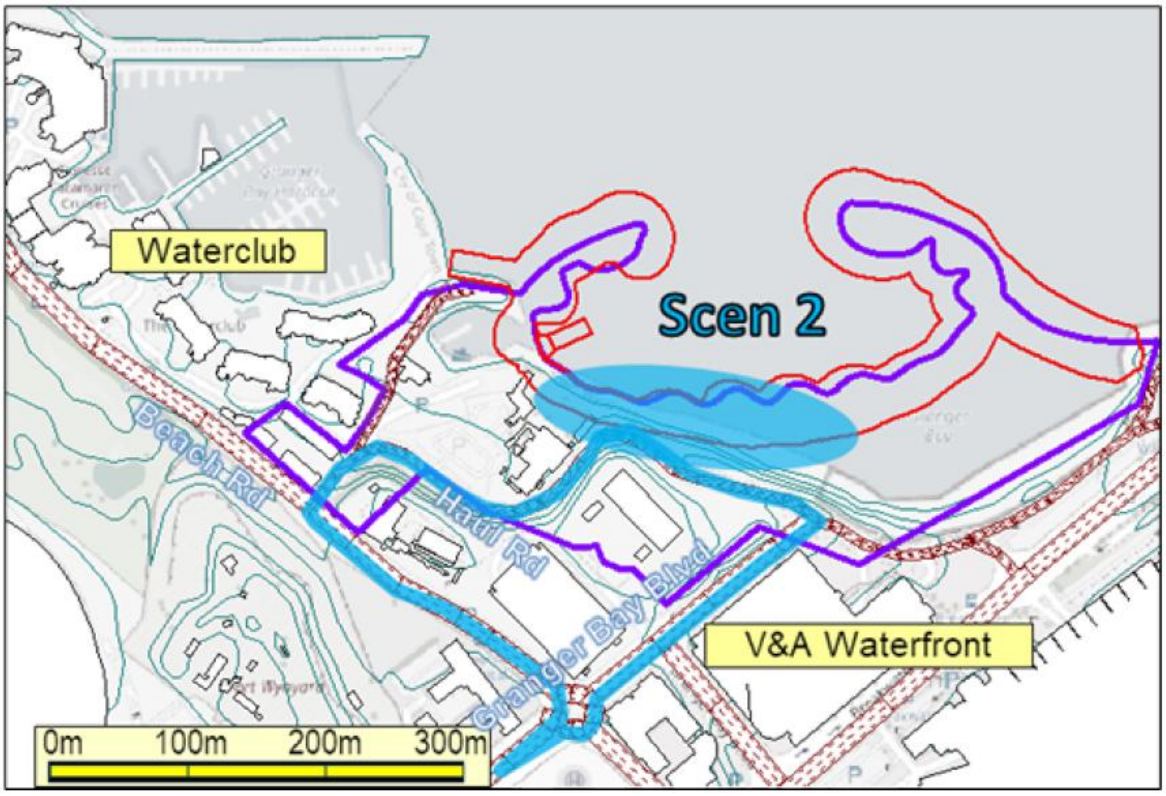


Figure 6-4: Construction Scenario 2: Middle reclamation area and associated activities.

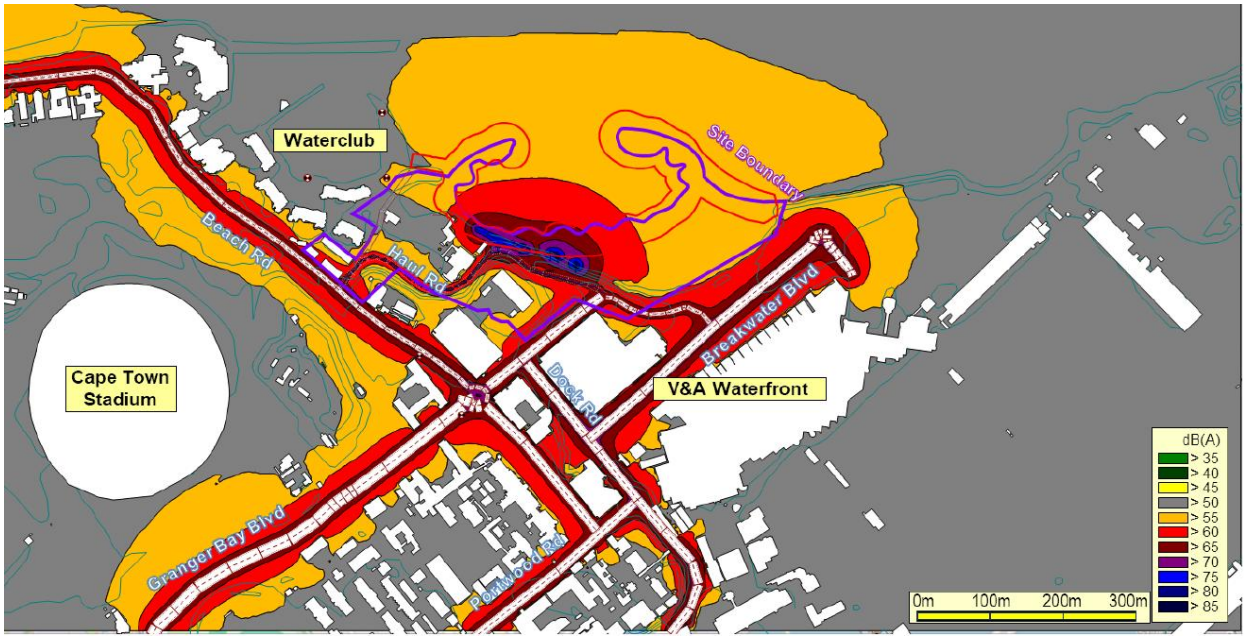


Figure 6-5: Predicted Cumulative Noise Levels for Construction Scenario 2 (incl. traffic, ambient and construction noise)

Sources of Noise and Vibration for Construction Scenario 3

During this construction phase, the principal construction activities are concentrated on the eastern breakwater and the eastern extent of the reclamation area. This represents the greatest separation distance between the active construction work face and the Waterclub buildings and consequently the lowest potential construction noise impact at the nearest residential receptors.

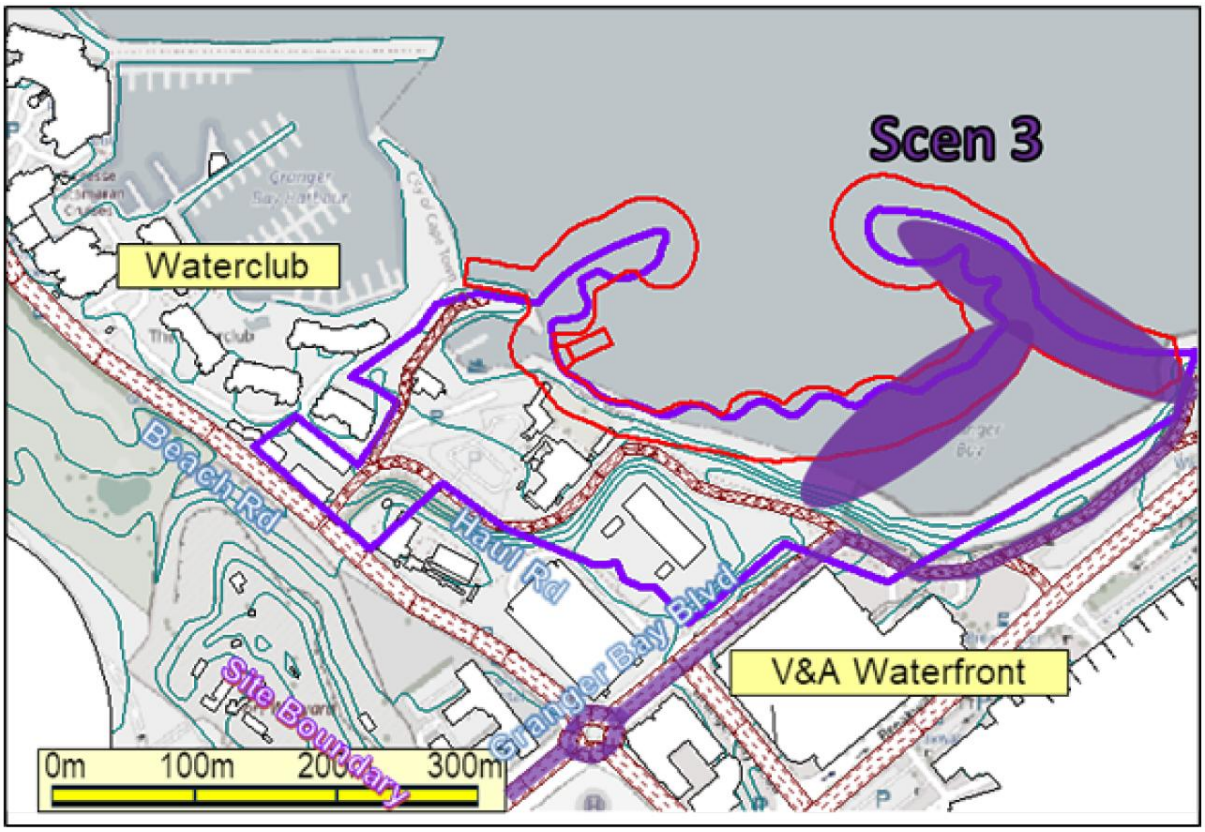


Figure 6-6: Construction Scenario 3: Eastern breakwater and associated activities.

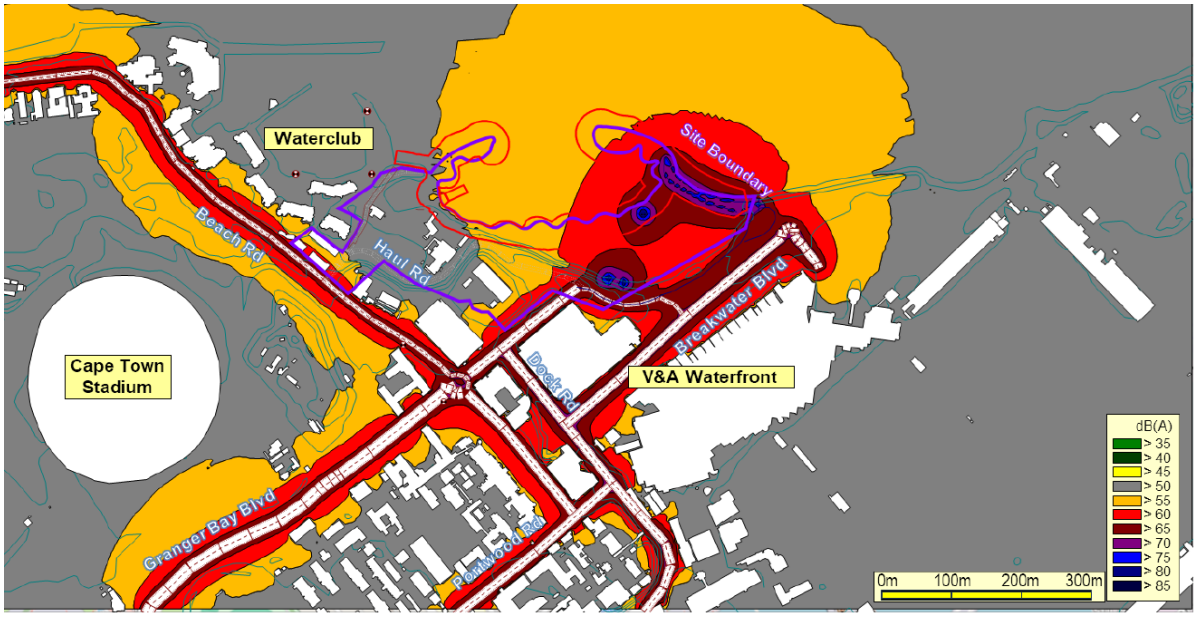


Figure 6-7: Predicted Cumulative Noise Levels for Construction Scenario 3 (incl. traffic, ambient and construction noise)

Mitigation Measures

The receiving noise environment at Granger Bay is already materially elevated above a typical residential baseline due to the concentration of power boats, jet skis, and other recreational marine craft operating from the OPBC slipway; vessel traffic to and from the V&A Waterfront marina and the Port of Cape Town; events at the DHL stadium; other construction projects in the area; general road traffic on Helen Suzman Boulevard; and general harbour industrial activity. This elevated pre-existing ambient noise climate, particularly during daylight hours, is an important contextual informant to the impact assessment.

To minimise construction noise impacts during this phase, the following mitigation measures are recommended:

Phase-specific Mitigation Measures:

- *Install and maintain a minimum 3 m high temporary noise barrier along the haul road serving the western breakwater construction area for the duration of works on the western breakwater that utilise the proposed temporary haul road near the property boundary. The noise barrier should be positioned as close as reasonably practicable to the haul road and active construction activities to maximise acoustic screening of the neighbouring property. More detail on the noise barrier requirements is included in the EMPr (**Appendix D**). The mitigated noise modelling results are presented in Appendix D of the NIA (see also Figure 6-8). The recommended construction noise mitigation and monitoring measures for implementation during construction are summarised below and are incorporated into the Environmental Management Programme (EMPr).*

Equipment and Source Control Mitigation Measures

- *All diesel-powered construction plant and vehicles shall be maintained in accordance with manufacturer specifications and fitted with effective silencers or mufflers. Plant emitting noise above 85 dB(A) at 7 m shall not be used unless no quieter alternative is available.*
- *Where practicable, hydraulic breakers shall be fitted with hydraulic silencing attachments. Rock placement shall use low-drop techniques (reduced fall heights for rock placement from cranes and excavators) to limit impulsive noise from large armour rock deployment.*
- *Marine vessels used for construction support shall be fitted with engine silencers and vibration-dampening mountings where practicable. Engine idling of marine plant for extended periods while not operating shall be prohibited.*
- *Where marine piling is required, a soft-start procedure (ramping up hammer energy progressively over a minimum of 20 minutes) shall be implemented at the commencement of each piling session to allow mobile marine fauna to move away from the noise source before full impact energy is applied.*
- *Undertake quarterly environmental noise monitoring during construction of the western breakwater to verify the effectiveness of the proposed mitigation measures, validate the noise model predictions and identify whether any additional practicable mitigation measures are required during construction. Monitoring should be undertaken at representative locations within the Waterclub precinct using the same methodology adopted for the baseline monitoring programme. Where measured noise levels differ materially from the predicted levels, the construction methodology and mitigation measures should be reviewed and, where necessary, additional mitigation implemented.*

Marine Fauna and Underwater Noise Monitoring:

- A qualified Marine Mammal Observer shall be stationed during all impact piling sessions (if required) to monitor for the presence of cetaceans and Cape fur seals within a defined exclusion radius of 500 m. Piling shall not commence if cetaceans are observed within the exclusion zone.
- An Underwater Noise Management Plan (UNMP) shall be prepared by a qualified acoustics specialist prior to commencement of any marine piling operations, incorporating exclusion zones, soft-start procedures, monitoring requirements, and mitigation trigger levels. The UNMP shall be submitted to SANParks and DFFE (Oceans & Coasts Branch) for approval prior to implementation.

Communication and Stakeholder Notification

- The Contractor shall establish a mechanism for keeping adjacent landowners informed via reasonable advance notice of particularly noisy activities such as impact piling, mass rock placement events, and compaction operations.
- A publicly accessible construction noise complaints register shall be maintained by the ECO. All complaints shall be logged, investigated, and responded to within 48 hours. Adaptive management actions shall be implemented in response to valid complaints.
- A dedicated construction hotline number shall be prominently displayed on site hoardings and on the V&A Waterfront and project website.

Haul Route Management

- Haul trucks shall use only the designated haul route (Granger Bay Boulevard, Helen Suzman Blvd, Buitengracht / M62 to N1 / N7) as prescribed in the Traffic Management Plan. Deviation from the designated route is prohibited.
- Haul trucks shall not idle unnecessarily at loading or offloading areas. Truck engines shall be switched off during extended waits.
- A maximum truck speed of 20 km/h shall be enforced within the site boundary and 30 km/h on the designated haul road adjacent to the OPBC and public areas.

General Mitigation Measures:

» *Pre-construction dilapidation surveys must be undertaken by the contractor for any existing infrastructure at risk from damage from construction activities, prior to the commencement of construction activities.*
» *Avoid unnecessary idling of heavy construction plant and equipment.*
» *Where practicable, avoid the simultaneous operation of multiple high-noise construction activities immediately adjacent to the Waterclub.*
» Scheduling and Working Hour Controls:
  - All marine and reclamation construction activities, including rock placement, compaction, and haul truck deliveries, shall be restricted to permitted working hours as prescribed by PN 200 of 2013: Monday to Friday 07:00–18:00 and Saturday 07:00–14:00 unless written exemption is granted by the local authority and prior notification is given to affected stakeholders.
  - Rock placement activities shall not commence before 07:30 daily. Peak-hour deliveries (07:00–08:30 and 16:30–18:00) shall be minimised to reduce traffic noise on the haul route.
  - Impact piling activities (if required) shall be restricted to 08:00-17:00 on weekdays only.

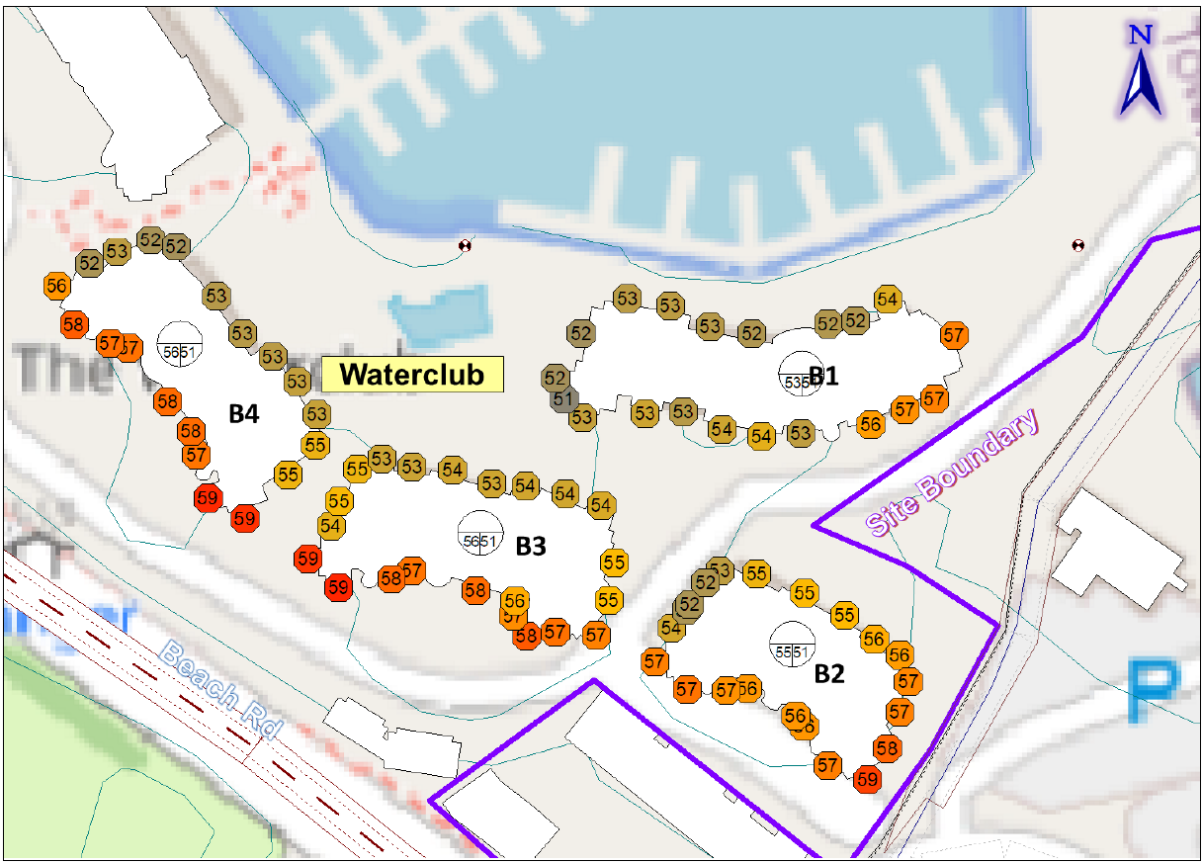


Figure 6-8: Predicted mitigated cumulative façade noise levels at the Waterclub (DDA, 2026)

Impact Assessment

The following table presents the significance rating of the noise and vibration impact from reclamation and in-water marine construction activities, with and without the implementation of mitigation measures.

Table 6-10: Noise and Vibration Impacts: Marine and Reclamation works for Scenario 1

Criteria	Preferred Alternative	No-Go
Description	**Noise and vibration impacts of the reclamation and in-water marine construction of the western breakwater, slipway, jetty and associated activities (Scenario 1)**	
Status (Nature)	**Negative**	**Neutral** – no construction impact
Extent	**Local**: impacts confined to the immediate site vicinity and within approximately 200–500 m of active marine works. The Water Club residential development is the nearest residential receptor within this zone. Haul truck noise will be experienced along the designated haul route (Granger Bay Boulevard, Helen Suzman Blvd, Buitengracht).	N/A
Duration	***Medium-term**:* Construction phase approximately 2–2.5 years. The impact is not permanent and will cease on completion of marine works.	N/A
Intensity	***Medium**: Overall, the modelling indicates that the worst-case phase of works results in a relatively modest increase above the existing acoustic environment at the Waterclub buildings, and remains within the acceptable regulated thresholds.*	N/A
Reversibility	**High reversibility**: Construction noise ceases on completion of the works. The acoustic environment will return to baseline on completion of in-water construction.	N/A
Irreplaceability	**Low**: The acoustic character of the receiving environment (urban coastal noise environment) is not uniquely irreplaceable. No permanent loss of noise-sensitive habitat is anticipated.	N/A

Criteria	Preferred Alternative	No-Go
Description	**Noise and vibration impacts of the reclamation and in-water marine construction of the western breakwater, slipway, jetty and associated activities (Scenario 1)**	
Probability	***Highly probable*** *(50 – 90% chance of occurring): It is probable that marine construction works will lead to an increase in noise levels experienced at adjacent building facades.*	N/A
Indirect	Potential secondary disruption to restaurant trade and recreational use. Impacts on marine fauna (assessed below) may include displacement and temporary behavioural modification.	N/A
Cumulative	***Low to medium****: The results indicate that the construction activities will be superimposed on an already elevated urban waterfront noise environment that is influenced by existing road traffic, harbour operations, recreational marine activities and other general Waterfront noise sources.*	N/A
Confidence	**High**: *Following calibration, the predicted baseline noise levels at the monitoring locations were within approximately ±1 dB of the measured ambient values, demonstrating good agreement between the measured and predicted baseline acoustic environments.*	High
Significance (before mitigation)	**Medium, negative:** *Overall, the modelling indicates that the worst-case phase of works results in a relatively modest increase above the existing acoustic environment at the Waterclub buildings, and remains within the acceptable regulated thresholds.*	**Neutral**
Mitigation Measures	*As specified above*	None required
Significance (after mitigation)	**Low, negative:** *The modelling demonstrates that the proposed 3 m high temporary noise barrier provides an effective and practicable mitigation measure during construction of the western breakwater. The barrier reduces construction noise propagation towards the nearest residential receptors and lowers the cumulative façade noise levels at the most affected buildings (Elstree and Dover)*. Residual elevated noise during permitted working hours remains.	**Neutral**

Table 6-11: Noise and Vibration Impacts: Marine and Reclamation works for Scenario 2

Criteria	*Preferred Alternative*	*No-Go*
Description	***Noise and vibration impacts of the reclamation and in-water marine construction of the centre revetment and associated activities***	
Status (Nature)	***Negative***	***Neutral*** *– no construction impact*
Extent	***Local****: impacts confined to the immediate site vicinity and within approximately 200–500 m of active marine works. The Water Club residential development is the nearest residential receptor within this zone. Haul truck noise will be experienced along the designated haul route (Granger Bay Boulevard, Helen Suzman Blvd, Buitengracht).*	*N/A*
Duration	***Medium-term****: Construction phase approximately 2–2.5 years. The impact is not permanent and will cease on completion of marine works.*	*N/A*
Intensity	***Medium****: Overall, the modelling indicates that the worst-case phase of works results in a relatively modest increase above the existing acoustic environment at the Waterclub buildings and remains within the acceptable regulated thresholds. N*	*N/A*
Reversibility	***High reversibility****: Construction noise ceases on completion of the works. The acoustic environment will return to baseline on completion of in-water construction.*	*N/A*
Irreplaceability	***Low****: The acoustic character of the receiving environment (urban coastal noise environment) is not uniquely irreplaceable. No permanent loss of noise-sensitive habitat is anticipated.*	*N/A*
Probability	***Probable*** *(<50% chance of occurring): It is probable that marine construction works will lead to an increase in noise levels experienced at the nearest residential building facades.*	*N/A*
Indirect	*Potential secondary disruption to restaurant trade and recreational use. Impacts on marine fauna (assessed below) may include displacement and temporary behavioural modification.*	*N/A*
Cumulative	***Low****: As construction activities progress towards the middle reclamation area, the separation distance between the active work face and the Waterclub buildings increases.*	*N/A*
Confidence	***High****: Following calibration, the predicted baseline noise levels at the monitoring locations were within approximately ±1 dB of the measured ambient values,*	*High*

Criteria	Preferred Alternative	No-Go
Description	**Noise and vibration impacts of the reclamation and in-water marine construction of the centre revetment and associated activities**	
	demonstrating good agreement between the measured and predicted baseline acoustic environments.	
Significance (before mitigation)	***Low, negative*** *The modelling indicates that the existing road traffic, harbour activities and general Waterfront noise continue to dominate the acoustic environment at the nearest sensitive receptors, with construction activities contributing only a relatively small increase to the overall daytime noise climate.*	**Neutral**
Mitigation Measures	*As specified above*	None required
Significance (after mitigation)	***Very Low, negative***	**Neutral**

Table 6-12: Noise and Vibration Impacts: Marine and Reclamation works for Scenario 3

Criteria	Preferred Alternative	No-Go
Description	**Noise and vibration impacts of the reclamation and in-water marine construction of the eastern breakwater and associated activities**	
Status (Nature)	***Negative***	***Neutral*** *– no construction impact*
Extent	***Local****: impacts confined to the immediate site vicinity and within approximately 200–500 m of active marine works. The Water Club residential development is the nearest residential receptor within this zone. Haul truck noise will be experienced along the designated haul route (Granger Bay Boulevard, Helen Suzman Blvd, Buitengracht).*	*N/A*
Duration	***Short-term***	*N/A*
Intensity	***Low****: The increased separation distance between the eastern breakwater works and the Waterclub buildings substantially reduces the contribution of construction activities to the cumulative noise environment*	*N/A*
Reversibility	***High reversibility****: Construction noise ceases on completion of the works. The acoustic environment will return to baseline on completion of in-water construction.*	*N/A*
Irreplaceability	***Low****: The acoustic character of the receiving environment (urban coastal noise environment) is not uniquely irreplaceable. No permanent loss of noise-sensitive habitat is anticipated.*	*N/A*
Probability	***Probable (<50% chance of occurring):*** *The distance of marine works makes construction-related noise disturbances much less likely.*	*N/A*
Indirect	*Potential secondary disruption to restaurant trade and recreational use. Impacts on marine fauna (assessed below) may include displacement and temporary behavioural modification.*	*N/A*
Cumulative	***Low***	*N/A*
Confidence	***High****: Following calibration, the predicted baseline noise levels at the monitoring locations were within approximately ±1 dB of the measured ambient values, demonstrating good agreement between the measured and predicted baseline acoustic environments.*	*High*
Significance (before mitigation)	***Very Low, negative:*** *Predicted cumulative noise levels remain comparable with the calibrated baseline noise environment, indicating that the prevailing urban waterfront acoustic environment continues to be the dominant contributor to the overall daytime noise climate at the nearest sensitive receptors.*	***Neutral***
Mitigation Measures	*As specified above*	*None required*
Significance (after mitigation)	***Very Low, negative***	***Neutral***

Residual noise exposure during permitted working hours is unavoidable given the nature of the construction programme. The significance is considered acceptable provided all mitigation measures are implemented and enforced by the ECO.

6.3.10 Noise and vibration impacts of general land-side construction

General land-side construction activities will generate sustained noise and vibration impacts at sensitive receptors surrounding the Granger Bay Precinct throughout the construction phase. These activities encompass site establishment, earthworks, building construction (residential, retail, commercial, public realm), infrastructure installation, and finishing works, anticipated to extend over a period of several years following completion of marine works.

Sources of Noise and Vibration

- Site establishment: erection of site hoardings, delivery of site infrastructure, mobile generator sets, welfare facilities, and storage areas.
- Demolition and excavation: Hydraulic breakers on excavators breaking existing hardstand, concrete and rock; excavation of foundations and service trenches; removal of redundant infrastructure.
- Earthworks and bulk cut/fill: Articulated dump trucks, scrapers, compactors (vibrating roller, plate compactors), graders: generating continuous noise and ground vibration.
- Concrete works: Concrete trucks, concrete pumps, vibrators for compaction of cast concrete, formwork striking. A concrete batching plant will also be located on-site.
- Structural steel erection: Crane operations, angle grinders, drilling rigs, and bolted connections.
- Mechanical and electrical services installation: Core drilling, power tools, hammer drills, compressors.
- Paving and hardstanding: Vibratory rollers, plate compactors, asphalt pavers.
- Delivery traffic: Cement mixers, crane lorries, materials delivery vehicles using the haul route and site access points.

Affected Receptors

- The Water Club residential development, approximately 125 m to the northwest of the active reclamation area: this is the nearest formal residential receptor, and as such represents the primary noise-sensitive residential receptor for this impact. Broader residential development to the east of Helen Suzman Boulevard, including Green Point, Sea Point, and Mouille Point communities, may also be affected during periods of particularly loud activity or under favourable wind conditions, but at significantly attenuated levels given the greater separation distance.
- Marine users in Table Bay: Recreational boaters, paddlers, kitesurfers, and vessels using the new slipway and Granger Bay; and
- Users of public footpaths, cycle routes, and the new coastal promenade adjacent to the development.

Mitigation

Passive mitigation context: The receiving noise environment at Granger Bay is already materially elevated above a typical residential baseline due to the concentration of power boats, jet skis, and other recreational marine craft operating from the existing and new slipways; vessel traffic to and from the V&A Waterfront marina and the Port of Cape Town; events at the DHL stadium; other construction projects in the area; general road traffic on Helen Suzman Boulevard; and general harbour industrial activity. This elevated pre-existing ambient noise climate, particularly during daylight hours, constitutes a passive mitigation factor that reduces the effective noise increment attributable to construction at the nearest residential receptor, the Water Club (≈125 m northwest).

Scheduling and Working Hours

- All marine and reclamation construction activities, including rock placement, compaction, and haul truck deliveries, shall be restricted to permitted working hours as prescribed by PN 200 of

2013: Monday to Friday 07:00–18:00 and Saturday 07:00–14:00 unless written exemption is granted by the local authority and prior notification is given to affected stakeholders.

-

Equipment and Source Controls

- All construction plant shall be equipped with manufacturer-fitted or retrofit silencers and exhaust mufflers. Equipment shall be maintained in good working order and shall be subject to noise compliance checks at commissioning and at monthly intervals.
- Site generators shall be fitted with acoustic enclosures reducing generator noise to a maximum of 70 dB(A) at 7 m. Generators shall be positioned as far as practicable from sensitive receptors.
- Demolition activities using hydraulic breakers shall be phased and limited to maximum two-hour continuous sessions, with breaks of at least 30 minutes, to avoid prolonged noise exposure to adjacent receptors.

Traffic and Haul Route Management

- Materials delivery scheduling shall be managed to prevent concentration of heavy vehicle movements during early morning and late afternoon periods.
- A dedicated site marshal shall direct and manage delivery vehicles to prevent congestion and unnecessary idling on Granger Bay Boulevard and adjacent roads.
- All haul vehicles operating on the site shall observe a speed limit of 20 km/h to reduce tyre and engine noise.

Community Communication

- *Neighbouring landowners shall receive updates, including schedules of any upcoming noisy activities.*
- Advance notification (minimum 5 working days) shall be provided to adjacent businesses and residential stakeholders when particularly noisy operations are scheduled (e.g., mass concrete breaking, large-scale compaction events).

Impact Assessment

The following table presents the significance rating of the noise and vibration impact from landside construction activities, with and without the implementation of mitigation measures.

Table 6-13: Noise and Vibration Impacts: General Construction

Criteria	Preferred Alternative	No-Go
Description	**Noise and Vibration Impacts: General Construction**	
Status (Nature)	**Negative**	**Neutral** – no construction impact
Extent	**Local**: Primarily within 300–500 m of the site boundary. Temporary elevated noise from breakers and compactors may be experienced up to 500 m from the site under favourable atmospheric conditions (wind direction towards receptors, temperature inversion). The Water Club residential development (≈125 m northwest) is the nearest residential receptor within this zone. Haul route noise will be experienced along Granger Bay Boulevard and Helen Suzman Blvd.	N/A
Duration	**Short-term to medium-term**: Land-side construction follows completion of Phase 0 marine works and is expected to continue for several years. The total construction programme may extend 5-7 years.	N/A
Intensity	**High**: Hydraulic breakers (demolition) generate 95–105 dB(A) at 7 m; vibrating rollers 75–85 dB(A) at 25 m (Federal Highway Administration (FHWA), 2006); concrete trucks and pump wagons 75–80 dB(A) at 25 m (BSI, 2009). A material passive mitigation factor applies: the existing ambient noise environment at and around the Granger Bay Precinct is already characterised by elevated background levels generated by power boat and jet ski engines, general harbour traffic (vessels transiting to and from the V&A Waterfront marina and Port of Cape Town), DHL Stadium events, and general urban traffic. This elevated pre-existing ambient reduces the effective noise increment attributable to construction, and partially offsets the significance of the impact at residential receptors compared to a quieter baseline.	N/A
Reversibility	**High reversibility**: Land-side construction noise ceases on completion of works.	N/A
Irreplaceability	**Low**: No irreplaceable loss of acoustic resources.	N/A
Probability	**Definite** (>90% chance): Land-side construction is intrinsic to the proposed development.	N/A
Indirect	Potential health and sleep disturbance impacts on nearby residents if construction occurs outside permitted hours.	N/A
Cumulative	**Medium**: Combination with marine works (if overlapping), ongoing V&A Waterfront maintenance, road works, and stadium events creates a complex cumulative noise environment.	N/A
Confidence	**High**	High
Significance (before mitigation)	**Medium, negative**	**Neutral**
Mitigation Measures	**As specified above and including:** • Passive mitigation context • Scheduling and working hour controls • Equipment and source controls • Communication and stakeholder notification	None required
Significance (after mitigation)	**Low to medium:** Working-hour limits, equipment silencing and other measures are expected to reduce noise exposure and surrounding receptors by 5–10 dB(A), bringing levels within or close to PN 200 limits at sensitive receptors during active operations. Residual elevated noise during permitted working hours remains.	**Neutral**

Residual noise exposure during permitted working hours is unavoidable given the nature of the construction programme. The significance is considered acceptable provided all mitigation measures are implemented and enforced by the ECO.

6.3.11 Dust impacts

Construction-phase activities will generate fugitive dust from two overlapping sources:

(i) the importation, handling, stockpiling, and placement of approximately 350 000 tonnes of quarried rock during marine and reclamation works (approximately 2-2.5 years); and

(ii) demolition, bulk earthworks, material handling, and building construction during the subsequent land-side construction phase.

Both dust-generation pathways affect the same sensitive receptors and are governed by the same legislative framework and monitoring regime; they are therefore assessed together as a single impact with two sub-sources that peak at different times in the construction programme. Both sub-sources affect the same receptors, but the marine construction work may have a higher peak intensity and a shorter time period, while the land-side phase represents a longer duration at lower intensity.

Dust sources: Marine reclamation works

- Rock quarrying fines and dust carried on haul vehicles from source quarries (Dorstberg and others) along the designated haul route (N7, N1, Buitengracht M62, Helen Suzman Blvd M6, Granger Bay Boulevard).
- Haul truck wheel-generated dust and re-suspension of road-deposited fines on the haul route, particularly on any unsealed road sections.
- Rock stockpile areas on-site: wind-blown fines from rock stockpiles during strong south-easterly conditions typical of the Cape Town summer.
- End-tipping and placement of rock from trucks and barges into the reclamation area and breakwater structure.
- Concrete batching, including cement dust and aggregate fines during loading and mixing operations.

Dust sources: Inland construction works

- Demolition of existing hardstand, pavement, and structures
- Excavation, loading and transport of cut material, backfilling operations, and exposed bare soil and rubble areas between operations.
- Construction material delivery and handling including loading and offloading from delivery vehicles
- Concrete batching, including cement dust and aggregate fines during loading and mixing operations.
- Exposed bare construction areas and access tracks — re-suspension of fine material by site vehicles and wind.
- Delivery and movement of aggregates, sand, and construction rubble by dump trucks on site access roads.

Affected Receptors

- Users of the public promenade, beach, and outdoor public spaces.
- Residential properties downwind primarily to the south-east and north under prevailing wind conditions, including the Water Club (approximately 125 m northwest) as the nearest residential receptor, and broader Green Point, Sea Point, and Mouille Point communities.
- Marine surface waters of Granger Bay and Table Bay: sedimentation of fine particulates from airborne dust deposition.

Mitigation

- All quarried rock should comply with PRDW's generic rock specification (PRDW 2019) which is based on the Rock Manual (CIRIA et al. 2007) and includes requirements to manage rock

cleanliness (absence of soil or quarry dust), reducing the likelihood of dust generation during rock placement.

- Dust suppression using a water bowser shall be implemented at all exposed surfaces during dry, windy conditions.
- All site vehicles shall observe a speed limit of 20 km/h on site access tracks and internal haul roads to minimise re-suspension of surface fines.
- A construction complaints hotline shall be maintained. All dust-related complaints shall be logged, investigated, and responded to within 48 hours.
- All haul trucks transporting fill material shall be covered with tarpaulins or tailgate covers before leaving the loading area and throughout transit along the haul route. Uncovered loads are prohibited.
- The haul road within the site boundary and Granger Bay Boulevard adjacent to the site shall be swept and/or watered as required during active haulage periods.
- Stockpiles of fine-grained materials (sand, crusher dust, topsoil) shall be covered with geotextile sheeting when not in active use. Cement shall be stored in sealed silos or closed bulk bags only. The stockpile layout shall be approved by the ECO before site establishment. All active stockpiles exceeding 1 m in height shall be enclosed by wind-break fencing (minimum 1.8 m height, 50% porosity) on the upwind sides.
- End-tipping operations shall use controlled drop heights to suppress dust at the point of impact.
- Haul vehicles shall be maintained to prevent spillage on public roads. Any spillage on public roads shall be cleared within one hour. Vehicles shall not be overloaded beyond manufacturer specifications.
- All concrete demolition and saw-cutting operations shall use wet-cutting techniques (water suppression on cutting blade and drill) to prevent generation of airborne dust.
- All skip bins and rubble skips shall be covered when filled.
- Workers involved in demolition and concrete cutting shall be provided with appropriate respiratory protective equipment in accordance with the Construction Regulations, 2014.
- Construction access tracks and internal haul routes shall be water-suppressed or treated with dust binders to minimise re-suspension of surface fines.

Impact Assessment

The following table presents the significance rating of the dust impacts, prior to the implementation of mitigation measures.

Table 6-14: Dust Impacts: Marine and Reclamation Construction

Criteria	Preferred Alternative	No-Go
Description	**Dust Impacts: Marine and Reclamation Construction**	
Status (Nature)	**Negative**	**Neutral** – no construction impact
Extent	**Local**: Dust dispersal from active haul operations and stockpiles is generally within 200 m of the source under moderate wind conditions. The Water Club residential development (≈125 m northwest at its nearest point) and marine surface waters of Granger Bay are within the primary impact zone. The haul route receptors are within the secondary zone.	N/A
Duration	**Short-term** transitioning to **Medium-term**. Dust generation intensity will vary seasonally and by phase, peaking during marine works summer haulage and stockpiling operations and during land-side demolition and earthworks.	N/A
Intensity	**Medium**: Bulk rock haulage and end-tipping creates elevated fugitive dust risk during active operations on high-wind days without suppression. Demolition, earthworks and material handling generate lower dust volumes, but dry concrete cutting and masonry grinding create localised risk for workers and adjacent receptors.	N/A

Criteria	Preferred Alternative	No-Go
Description	**Dust Impacts: Marine and Reclamation Construction**	
Reversibility	**High**: Dust generation ceases on completion of each construction phase. Site surfaces are progressively capped and hardened as construction advances, reducing the exposed surface area over time.	N/A
Irreplaceability	**Low**: No irreplaceable loss of resources from dust deposition. Cumulative marine sedimentation from airborne dust may marginally affect habitat quality, but this is considered negligible given the naturally high-energy coastal environment.	N/A
Probability	**Definite** (>90%): Quarried rock haulage, stockpiling, demolition, earthworks, and building construction will generate dust. This impact is inherent to the proposed construction programme.	N/A
Indirect	Primarily nuisance impacts at nearby receptors	N/A
Cumulative	**Low to Medium** if combined with other nearby construction and road traffic dust.	N/A
Confidence	**High**: Dust generation characteristics of rock haulage, stockpiling, demolition, and earthworks operations are well-documented.	High
Significance (before mitigation)	**Low to medium negative**	**Neutral**
Mitigation Measures	Dust suppression and limitation measures as detailed above and included in the EMPr	None required
Significance (after mitigation)	**Low negative**	**Neutral**

Residual dust impacts during exceptional high-wind events cannot be fully eliminated. Adaptive management protocols are required and are incorporated in the EMPr.

6.3.12 Visual impacts of construction activities

*A Visual Impact Assessment was conducted by visual specialist Megan Anderson as an informant into the HIA (**Appendix B8**). The construction phase visual impacts are described below. As per HWC's request, the VIA has assessed the impacts comparatively with the Straight-Line Revetment (2018 Scheme – Already Authorised). This comparative assessment is reported only where specifically requested by HWC. HWC's Final Comment can be found in Appendix C2.*

The construction of the proposed coastal revetments, coastal infilling to reclaim land, construction of large buildings and roads will require the use of cranes, earth-moving, demolition and construction machinery. These activities will have visual, noise and dust effects during the construction period, which could continue for many years for land-based construction as the site is extensive, but the programme and duration is unknown. It will negatively affect the surrounding residents and workers, as well as marine life during land reclamation. The below image provided a view of the existing site.

Mitigation Measures

An environmental management plan (EMP) with specifications, as well as an environmental control officer (ECO) must be put in place to ensure that visual pollution (including litter), noise and dust are minimised during the construction phase, with appropriate penalties for noncompliance. Mitigation measures included in the EMPr include:

- Manage stockpile and laydown areas for cleanliness and appearance.
- Roof and screen waste areas.
- Avoid unnecessary signage or advertisement on site.
- Restrict the activities and movement of construction workers and vehicles to the immediate construction site as much as possible;
- Ensure that rubble, litter and disused construction materials are managed and removed regularly;
- Locate site camps and laydown areas away from visually sensitive receptors such as residences.

- Screen site camps and laydown areas with shade cloth or similar, where possible and appropriate.

Impact Assessment

The following table presents the significance rating of the visual impacts from construction activities, with and without the implementation of mitigation measures.

Table 6-15: Visual impacts of construction activities

Criteria	Approved Scheme*	Preferred Alternative	No-Go
Description	**Potential Impacts of Construction Activities**		
Status (Nature)	**Negative**	**Negative**	**Neutral**
Extent	**Local**	**Local**	No change to baseline conditions
Duration	**Medium term**: Sea-based construction activities are anticipated to take approximately 3 years to complete, but land-based construction could be longer.		
Intensity	**Medium - High:** The site is highly visible and has a high visual sensitivity.	**Medium - High:** The site is highly visible and has a high visual sensitivity.	
Reversibility	**High** - impact ceases on completion of construction	**High** - impact ceases on completion of construction	
Irreplaceability	**Moderate**	**Moderate**	
Probability	**Definite**	**Definite**	
Indirect	Temporary change to visual landscape	Temporary change to visual landscape	
Cumulative	**Low to moderate,** depending on the number of other construction activities within the V&AW precinct at the time of construction.		
Confidence	**High**	**High**	
Significance (before mitigation)	**Medium-High, negative**	**Medium-High, negative**	
Mitigation/Enhancement Measures	Standard construction phase mitigation measures include: • Manage stockpile and laydown areas for cleanliness and appearance. • Roof and screen waste areas. • Avoid unnecessary signage or advertisement on site. • Restrict the activities and movement of construction workers and vehicles to the immediate construction site as much as possible; • Ensure that rubble, litter and disused construction materials are managed and removed regularly; • Locate site camps and laydown areas away from visually sensitive receptors such as residences. • Screen site camps and laydown areas with shade cloth or similar, where possible and appropriate.		
Significance (after mitigation)	**Medium, negative**	**Medium, negative**	**Neutral**

**Only included where specifically requested to do so by HWC.*

The visual impacts associated with the construction phase activities are temporary in nature and are manageable. However, given the visibility of the site, the visual sensitivity of the coastal area, and the uncertainty of the land side construction phasing, this impact remains medium negative after mitigation.

6.3.13 Archaeological Impacts (Construction Phase)

Activities associated with the Granger Bay Land Reclamation project have the potential to impact pre-colonial archaeological sites and material and any maritime archaeological resources within the project area.

*As an informant to the Heritage Impact Assessment, an Archaeological Impact Assessment (AIA) was conducted by TerraMare Archaeology (Pty) Ltd by John Gribble (included as **Appendix B7**). As per HWC's request, the AIA has assessed the impacts comparatively with the Straight-Line Revetment (2018 Scheme – Already Authorised). This comparative assessment is reported on only where specifically requested by HWC. HWC's Final Comment can be found in Appendix C2.*

Construction activities associated with the Granger Bay Land Reclamation project that pose a risk to archaeological resources include land-based construction activities, in particular the excavation of existing developed areas where excavation is anticipated to reach depths that would encounter the original land surface; as well as maritime construction activities, which include the placement of fill material on the seabed.

Terrestrial Archaeology

Terrestrial Historical Archaeology: From the baseline descriptions in Section 3.6.3, it appears unlikely that terrestrial historical archaeological resources are present on the project site, and this receptor has been scoped out of the impact assessment. Nonetheless, precautionary mitigation measures are included below, as well as the EMPr (included as Appendix D).

Pre-Colonial Terrestrial Archaeology: The main impacts to undisturbed pre-colonial archaeological material, which survives under later landfill or development, will occur during construction activities related Granger Bay Land Reclamation project and may arise **where construction activities reach and disturb the original land surface.** Given the rarity of surviving pre-colonial archaeological material in the developed urban context of this part of the city, the significance of impacts is likely to be high, but with the implementation of suitable mitigation measures would be reduced to low. This is detailed in Table 6-16 below.

Maritime Archaeology

Submerged Prehistorical Archaeology: Although there is the potential for the presence of submerged prehistoric archaeological material within the seabed sediments in the maritime portion of the project area, this is likely to be extremely low. The nature of the proposed work in this area – the depositing of fill on the seabed – also means that **the direct interventions into the seabed that might encounter such material will not take place.** Submerged prehistoric archaeological material is, therefore, scoped out of this assessment. No mitigation measures are recommended.

Historical Shipwrecks: The nature of the activities proposed in the maritime portion of the project area – fill and reclamation – mean that although any wreck material present in the area is unlikely to be physically destroyed, it will be heavily impacted and effectively made inaccessible as a heritage resource. Because no wrecks have been previously reported in the Granger Bay Land Reclamation project, it is difficult to assess the significance of any impacts, which depends to a large degree on the archaeological value of the affected site or material. It is, however, likely that impacts to a previously undiscovered wreck will be medium-high, which could be reduced to low with the implementation of suitable mitigation measures as detailed in Table 6-17.

Mitigation measures

Pre-Colonial Archaeology: Fragmentary survivals of pre-colonial archaeological material (principally coastal shell middens) are possible where undisturbed coastal sediments survive, even where currently buried under later landfill or development.
It is recommended that:

- Where new development or earthworks which have the potential to reach the depth of the former historical land surface are undertaken in the areas indicated in Figure 6-9, the work is archaeologically monitored.
- Should pre-colonial archaeological material be encountered, this will need to be archaeologically assessed by a suitably qualified archaeologist. Archaeological material is the property of the state and may require excavation and curation in an approved institution. If found, such material may not be removed or disturbed until inspected and, if required, mitigated by an archaeologist.

No graves or burial grounds have been recorded within the Granger Bay Land Reclamation project, but it is possible that unmarked burials could be present in the same areas of the site that may be archaeologically sensitive. Such, usually pre-colonial graves, are an extremely sensitive and often contested heritage resource, and it is generally impossible to predict their presence in advance of development. It is, therefore, recommended that:

- In the event of the discovery of human remains, work in the affected area must cease immediately, the find must be made secure but left in situ, and Heritage Western Cape (HWC) and an archaeologist must be informed so that the find can be assessed and arrangements can be made for its mitigation.

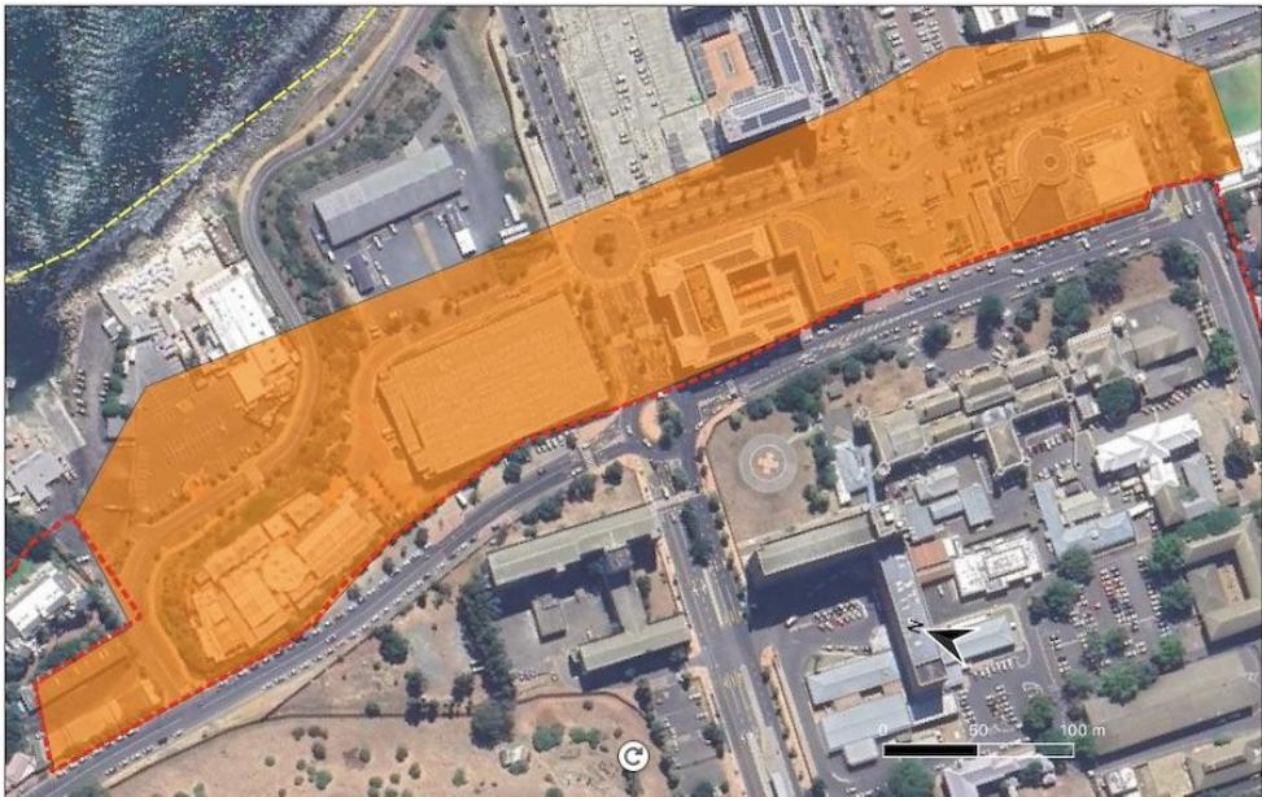


Figure 6-9: Rough indication of pre-colonial archaeology sensitivity in the Beach Road precincts where sites or material may survive under later landfill (After: Gribble 2024).

Terrestrial Historical Archaeology: The historical structures recorded as being present in the Granger Bay Land Reclamation project area and described above appear to have been demolished and removed in 1997/8. As such, the area is of very low historical archaeological significance. It is recommended that where new development or earthworks have the potential to reach the depth of the former historical land surface in the areas indicated in Figure 6-9, that construction be archaeologically monitored.

Historical Shipwrecks: No wrecks have been previously reported in the Granger Bay Land Reclamation project and overall, the likelihood of encountering historical wrecks in the area is low. Because of the uncertainty introduced by the vagueness of contemporary historical descriptions of maritime casualties in the Mouille Point and Granger Bay area, however, it is recommended that:

- A geophysical survey of the seabed, (sidescan sonar, multibeam bathymetry and magnetometry), is conducted in the project area prior to any land reclamation activities, to confirm whether there are shipwreck or other heritage sites present.
- The results of the geophysical survey should be reviewed by a suitably qualified archaeologist.
- If a wrecks or wrecks are present in the area SAHRA must be notified immediately, and the site/material must be assessed by a suitably qualified archaeologist, after which a decision can be made about the need for any mitigation measures, which may include site recording, sampling/excavation, and potentially removal and recovery.
- Any future excavations within the Granger Bay Land Reclamation precinct through existing landfill, seaward of the historical alignment of the shoreline, to levels that may intersect with the former seabed must be subject to archaeological monitoring, with the necessary contingencies in place to allow the mitigation of shipwreck remains, should they be encountered.

Impact Assessment

The following table presents the significance rating of the impacts from land-based construction activities on pre-colonial terrestrial archaeology, with and without the implementation of mitigation measures.

Table 6-16: Pre-Colonial Terrestrial Archaeology Impacts

Criteria	Approved Scheme*	Preferred Alternative	No-Go
Description	**Damage to, or destruction of archaeological sites and/or artefacts**		
Status (Nature)	**Negative**	**Negative**	**None**
Extent	**Site specific**	**Site specific**	**None**
Duration	**Medium – Long Term**	**Permanent**	**None**
Intensity	**Medium – High**	**Medium**	**None**
Reversibility	**Non-reversible**	**Non-reversible**	**None**
Irreplaceability	**High irreplaceability**	**High irreplaceability**	**None**
Probability	**Probable**	**Improbable**	**None**
Indirect	***None:*** *Nature of impact specific to direct impacts on archaeological sites/artefacts.*		***None***
Cumulative	***Low:*** *Depending on required excavation depths, other developments in the V&AW area could reach the depth of historical landscape. It is assumed that these other developments would also be subject to mitigation measures as required.*		***None***
Confidence	**Medium**	**Low**	**None**
Significance (before mitigation)	**Medium-High, negative**	**Medium, negative**	**None**
Mitigation Measures	None specified	• Where new development or earthworks which have the potential to reach the depth of the former, historical land surface are undertaken in the areas indicated in Figure 56, the work is archaeologically monitored. • Should pre-colonial archaeological material be encountered, this will need to be archaeologically assessed by a suitably qualified archaeologist. • In the event of the discovery of human remains, work in the affected area must cease immediately, the find must	**N/A**

Criteria	Approved Scheme*	Preferred Alternative	No-Go
Description	**Damage to, or destruction of archaeological sites and/or artefacts**		
		be made secure but left in situ, and HWC and an archaeologist must be informed so that the find can be assessed and arrangements can be made for its mitigation.	
Significance (after mitigation)	-	**Low, negative**	**Neutral**

**Only included where specifically requested by HWC.*
***The impact rating provided in the 2015 Phase II HIA did not address the full range of assessment criteria. This is reflected in this table.*

The following table presents the significance rating of the impacts from marine construction activities on maritime archaeology, with and without the implementation of mitigation measures.

Table 6-17: Maritime Archaeology (Shipwrecks)

Criteria	Approved Scheme*	Preferred Alternative	No-Go
Description	**Impact on maritime archaeology (shipwrecks)**		
Status (Nature)	**Negative**	**Negative**	**None**
Extent	**Site specific**	**Site specific**	**None**
Duration	**Medium – Long Term**	**Permanent**	**None**
Intensity	**Medium - High**	**Medium**	**None**
Reversibility	**-**	**Irreversible**	**None**
Irreplaceability	**-**	**High Irreplaceability**	**None**
Probability	**Probable** (<50%)	**Probable** (<50%)	**None**
Indirect	***N/A***	***N/A***	***None***
Cumulative	***Low:** No other reclamation projects are planned that would extend into the sea and pose a risk to shipwrecks. Depending on required excavation depths, Phase 1B and other developments in the V&AW area could reach the depth of historical landscape. It is assumed that these other developments would also be subject to mitigation measures as required.*		***None***
Confidence	**Medium**	**Medium**	**High**
Significance (prior to mitigation)	**Medium - High, negative**	**High**	**None**
Mitigation Measures	**None specified**	• A geophysical survey of the seabed, (sidescan sonar, multibeam bathymetry and magnetometry), is conducted in the project area prior to any land reclamation activities, to confirm whether there are shipwreck or other heritage sites present. • The results of the geophysical survey should be reviewed by a suitably qualified archaeologist. • If a wrecks or wrecks are present in the area SAHRA must be notified immediately, and the site/material must be assessed by a suitably qualified archaeologist, after which a decision can be made about the need for any mitigation measures, which may include site recording, sampling/excavation, and potentially removal and recovery. • Any future excavations within the Granger Bay Land Reclamation precinct through existing landfill, seaward of the historical alignment of	**N/A**

Criteria	Approved Scheme*	Preferred Alternative	No-Go
Description	**Impact on maritime archaeology (shipwrecks)**		
		the shoreline, to levels that may intersect with the former seabed must be subject to archaeological monitoring, with the necessary contingencies in place to allow the mitigation of shipwreck remains, should they be encountered.	
Significance (after mitigation)	-	**Low, negative**	**Neutral**

**Only included where specifically requested by HWC.*
***The impact rating provided in the 2015 Phase II HIA did not address the full range of assessment criteria. This is reflected in this table.*

In terms of terrestrial archaeology, given the rarity of surviving pre-colonial archaeological material in the developed urban context of this part of the city, the significance of impacts is likely to be high, but with the implementation of suitable mitigation measures would be reduced to low. In terms of maritime archaeology, because no wrecks have been previously reported in the Granger Bay Land Reclamation project, it is difficult to assess the significance of any impacts, which depends to a large degree on the archaeological value of the affected site or material. It is, however, anticipated that impacts to a previously undiscovered wreck will be medium to high, which could be reduced to low with the implementation of suitable mitigation measures.

6.3.14 Heritage Impacts during construction: Access to the slipway

*A Heritage Impact Assessment was conducted by Cindy Postlethwayt in accordance with the requirements of Section 38(8) of the NHRA (**Appendix B6**). Construction phase impacts on heritage resources are described below. HWC's Final Comment can be found in Appendix C2.*

Part of the proposed development includes the reconstruction of the existing slipway that currently operates under the management of the Oceana Power Boat Club.

For an extensive and continuous period the slipway has operated as a launching site for small boats related to subsistence and commercial fishermen as well as for recreational craft. The slipway is one of the very few safe entry points into Table Bay for small boats and for the general public. Many of the fishermen who use the slipway belong to communities who were forcibly removed from Cape Town (District 6, Sea Point) during the Apartheid years and have a long-standing tradition of using the facility to launch their boats. Access to the slipway is regarded as being of high significance to these fishermen (**IIIC** heritage grading).

In addition, the slipway is used by a variety of stakeholders such as authorities (City of Cape Town, DFFE), rescue organisations (National Sea Rescue Institute) and research institutions (CPUT, Two Oceans Aquarium).

Mitigation Measures

The new slipway as detailed in Section 2.2.4. must be constructed before the decommissioning of the existing slipway. Given the significance of the slipway to all users, this mitigation measure is essential to avoid an unacceptable negative impact on the slipway users. This will ensure access to the ocean is uninterrupted. However, construction activities may require temporary restriction to certain areas depending on how the slipway construction progresses, as well as any regulatory health and safety

requirements. Communication with affected users is required to ensure any unavoidable closures or restrictions are communicated timeously.

Mitigation measures proposed in the EMPr include:

- Prepare a Construction Traffic and Access Management Plan prior to construction commencement that identifies all phases of work likely to affect slipway access, anticipated duration of any restrictions or closures, and proposed alternative arrangements.
- Engage with the slipway operator and relevant local authority before construction commences to agree on acceptable working hours and minimum access requirements that must be maintained throughout construction.
- Complete construction, commissioning, and testing of the new slipway to a standard of full equivalent functionality (including launch and retrieval capability, approach, lighting, and associated facilities) and confirm this with a joint inspection before any restriction or closure of the existing slipway is implemented.
- Provide advance public notice of any planned slipway closures or restrictions through appropriate channels (signage at the slipway, notice to local boating clubs and harbour users, and municipal or harbour authority communication channels) at least 5 working days before any restriction takes effect.
- Minimise the footprint and duration of any construction exclusion zone affecting the slipway approach, launch area, or associated parking and rigging areas; remove temporary obstructions at the end of each working day where practicable.
- Ensure construction signage and barriers at the slipway are clearly marked, well-lit, and do not create safety hazards for members of the public navigating around the works area.
- Maintain a complaints and grievance register for slipway users and respond to complaints relating to access disruption within 2 working days.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-18: Access to the slipway

Criteria	Preferred Alternative	No-Go
Description	**Loss of ocean-going user access to the coastline**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local:** <2km from the site	Access remains as per the current operational system.
Duration	**Short-term** (<5 years): Duration of construction	
Intensity	**High:** Given the importance of the slipway to a variety of stakeholders, extended closure of the slipway would have a significant impact on ocean users.	
Reversibility	**Reversible**	
Irreplaceability	**Moderate**	
Probability	**Unlikely**	
Indirect	n/a	
Cumulative	n/a	
Confidence	**High**	
Significance (before mitigation)	**Medium, negative**	
Mitigation/Enhancement Measures	**As per the mitigation measures detailed above.**	
Significance (after mitigation)	**Low, negative**	**Neutral**

With the implementation of the above mitigation measures, access to the slipway will be continuous throughout the majority of the construction phase, with temporary closures only where and when necessary.

6.3.15 Heritage Impacts during construction: Public access to the shoreline

The primary character component of any significance present is the spatial and visual contact with the water's edge (**IIIA** heritage grading). In respect of the public access to the water's edge, the coastal pedestrian walkway and boardwalk run for almost the entire length of the V&AW Granger Bay landholding on its northern coastal edge but is interrupted by the restrictions of the slipway operation and the Grand Cafe & Beach development.

Construction activities would temporarily limit pedestrian access to the development site. This impact is unavoidable particularly during land side construction.

Mitigation Measures

Phase construction activities so that the existing boardwalks and walkways are only closed off when and where needed for construction activities.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-19: Public access to the shoreline

Criteria	Preferred Alternative	No-Go
Description	**Loss of pedestrian user access to the coastline (physical)**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local:** <2km from the site	No change to baseline conditions.
Duration	**Short-term** (<5 years): Duration of construction activities	
Intensity	**High**	
Reversibility	**High**	
Irreplaceability	**Moderate**	
Probability	**Probable**	
Indirect	n/a	
Cumulative	***Low – Medium**, depending on the timing of construction activities for this project and for other new development in the V&A Waterfront.*	
Confidence	**High**	
Significance (before mitigation)	**Medium, negative**	
Mitigation/Enhancement Measures	• Phase construction activities so that the existing boardwalks and walkways are only closed off when and where needed for construction activities. • The coastal public walkway / sea park area should be prioritised for completion as soon as the coastal protection infrastructure is completed.	
Significance (after mitigation)	**Medium, negative**	**Neutral**

6.3.16 Transport Impacts during the construction phase

A Transport Impact Assessment was conducted by Sergei Kiewiet of Motion Consulting Engineers and is included as ***Appendix B9****.*

Construction activities (earthworks, structure installation and utility diversions) will generate elevated truck and workforce-vehicle movements along Beach Road, Dock Road, Breakwater Lane, Granger Bay Boulevard, Portswood Road, Dock Road, Fritz Sonnenberg Road and Helen Suzman Boulevard.

Construction and reclamation will generate sustained heavy-vehicle movements associated with the importation of approximately 351 000 t (≈ 125 000 m³) of rock material to the site over a two-year period. Based on input from the project civil engineers, this equates to about 16 700 truckloads, averaging 35 loaded trips per day, or 4–6 trucks per hour during active daytime haulage. Construction-phase truck activity associated with reclamation works represents a temporary high-intensity impact that will require dedicated management through a traffic management plan (TMP). A detailed TMP covering site access, hoarding, sequencing of works, traffic controls, safety protocols, dust suppression and stakeholder communications must be prepared prior to the completion of the detailed design stage in accordance with municipal requirements. The TMP must be finalised, detailing haul routes, off-peak scheduling, and coordination with MyCiTi and relevant City departments.

Most material is expected to be hauled from Dorstberg and other quarries via Contermans Kloof → N7 → N1 → Buitengracht (M62) → Helen Suzman Blvd (M6) → Granger Bay Boulevard. Construction activity will likely be confined to standard daytime hours with deliveries restricted during commuter peaks. A detailed TMP must prescribe specific controls for scheduling, haul-route maintenance, signage, and coordination with MyCiTi Operations and the City's Urban Mobility Directorate to manage any short-term route or stop disruptions.

The updated TIA includes concept swept-path testing, which indicates that smaller rigid tippers should be used in the constrained area closest to the Waterclub boundary, while articulated side tippers can be accommodated at the other tested rock placement areas for the construction phase.

Mitigation Measures

Key mitigation measures (to be expanded in the TMP) for the construction phase include:

- Off-peak scheduling of heavy-vehicle movements.
- *Confirmation of approved external haul routes, internal haul routes, vehicle types and offloading locations before significant haulage commences.*
- *Use of smaller rigid tippers, rather than articulated side tippers, in constrained areas where swept-path analysis indicates limited manoeuvring space, including the offloading area closest to the adjacent residential area.*
- Advance public notice of road, lane or shoulder closures, with on-site flagmen, barriers and signage compliant with Southern African Road Traffic Signs Manual (SARTSM).
- Site traffic-management plan with qualified marshals.
- Early liaison with MyCiTi operations to phase any temporary stop or route restrictions and obtain route deviations.
- Wheel-wash bays and routine road-sweeping to prevent debris spillage *on public roads*.
- Condition checks of Granger Bay Boulevard and adjacent intersections along well-used haul routes.

- Stakeholder notifications and information boards within the Waterfront precinct *including communication protocols for works near sensitive surrounding properties.*

The following impacts are assessed in the following tables:
- Traffic volumes (trucks & staff cars) (Table 6-20)
- Pavement wear & dust (Table 6-21)
- Safety (workers & public) (Table 6-22)
- Temporary closures & diversions (Table 6-23)

Impact Assessment

Traffic Volumes (Trucks and Staff Cars)

The following table presents the significance rating of the impact from increased traffic volume, with and without the implementation of mitigation measures.

Table 6-20: Impacts on traffic volumes

Criteria	Preferred Alternative	No-Go
Description	**Traffic Volumes (Trucks and Staff Cars)**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Regional and local:** Elevated truck and workforce-vehicle movements from various quarries within the V&AW vicinity.	No change to baseline conditions
Duration	**Short-term** (=24 Months)	
Intensity	**High**: ≈ 35 loaded trucks/day (≈ 70 movements)	
Reversibility	**Reversible**	
Irreplaceability	n/a	
Probability	**Definite:** (>90%): The impact is unavoidable with the construction of the proposed development.	
Indirect	**Medium**	
Cumulative	**Moderate** contribution to construction-related traffic, depending on timing of other developments within the Granger Bay and broader V&AW precinct *(such as Phase 1B)*.	
Confidence	**High**	
Significance (before mitigation)	**High, negative**	
Mitigation/Enhancement Measures	• Off-peak scheduling of heavy-vehicle movements. • *Confirmation of approved external haul routes, internal haul routes, vehicle types and offloading locations before significant haulage commences.* • Site traffic-management plan with qualified marshals. • Stakeholder notifications and information boards within the Waterfront precinct *including communication protocols for works near sensitive surrounding properties.*	
Significance (after mitigation)	**Medium, negative**	**Neutral**

Pavement Wear and Dust

Potential increased wear on pavements due to increase volume of heavy vehicles along transport routes. If not managed correctly, transported fill material can increase dust fallout along the transport route. The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-21: Impact on pavement wear and dust

Criteria	Preferred Alternative	No-Go
Description	**Pavement Wear and Dust**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**: <2km from the site	No change in baseline conditions
Duration	**Short term**	
Intensity	**Medium**	
Reversibility	**Non-reversible**	
Irreplaceability	**High replaceability**	
Probability	**Probable**	
Indirect	**Low**	
Cumulative	**Low**	
Confidence	**Medium**	
Significance (before mitigation)	**Medium, negative**	
Mitigation/Enhancement Measures	• Wheel-wash bays and routine road-sweeping to prevent debris spillage. • Condition checks of Granger Bay Boulevard and adjacent intersections along well-used haul routes. • Dust suppression measures.	
Significance (after mitigation)	**Low, negative**	**Neutral**

Worker and Public Safety

The presence of heavy vehicles always presents a safety risk, particularly when passing through busy urban areas where there are many intersections with pedestrian routes. The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-22: Impact on worker and public safety

Criteria	Preferred Alternative	No-Go
Description	**Worker and Public Safety**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change in baseline conditions
Duration	**Short-term**	
Intensity	**High**	
Reversibility	**High reversibility**	
Irreplaceability	**n/a**	
Probability	**Possible**	
Indirect	**Low**	
Cumulative	**Moderate** depending on timing of other developments within the broader V&AW precinct *(such as Phase 1B)*.	
Confidence	**Medium**	
Significance (before mitigation)	**High, negative**	
Mitigation/Enhancement Measures	• Advance public notice of road, lane or shoulder closures, with on-site flagmen, barriers and signage compliant with Southern African Road Traffic Signs Manual (SARTSM). • Site traffic-management plan with qualified marshals.	
Significance (after mitigation)	**Medium, negative**	**Neutral**

Temporary Closures and Diversions

As construction progresses, phased closures of certain roads will be required to facilitate construction activities. The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-23: Temporary closures and diversions

Criteria	Preferred Alternative	No-Go
Description	**Temporary Closures and Diversions**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local / phased**	No change in baseline conditions
Duration	**Temporary** (≤1 week per section for the duration of construction)	
Intensity	**High**	
Reversibility	**Reversible**	
Irreplaceability	**n/a**	
Probability	**Definite**	
Indirect	**Medium**	
Cumulative	**Moderate** depending on timing of other developments within the broader V&AW precinct *(such as Phase 1B)*.	
Confidence	**High**	
Significance (before mitigation)	**High, negative**	
Mitigation/Enhancement Measures	• Advance public notice of road, lane or shoulder closures, with on-site flagmen, barriers and signage compliant with Southern African Road Traffic Signs Manual (SARTSM). • Site traffic-management plan with qualified marshals. • Early liaison with MyCiTi operations to phase any temporary stop or route restrictions and obtain route deviations. • Signalled detours • Night works where feasible and noise restrictions permit • *Confirmation of approved external haul routes, internal haul routes, vehicle types and offloading locations before significant haulage commences.* • *Use of smaller rigid tippers, rather than articulated side tippers, in constrained areas where swept-path analysis indicates limited manoeuvring space, including the offloading area closest to the adjacent residential area.* • Stakeholder notifications and information boards within the Waterfront precinct *including communication protocols for works near sensitive surrounding properties.*	
Significance (after mitigation)	**Low, negative**	**Neutral**

6.3.17 Construction-phase Socio-economic Impacts

A Socio-Economic Impact Assessment was conducted by Alex Kempthorne and Mwajuma Kamanzi of Urban-Econ Development Economists (Pty) Ltd to assess the impact of the proposed development on the surrounding socio-economic context. The specialist report is appended in ***Appendix B2****.*

Production and GDP

The Social Accounting Matrix (SAM) model estimates that the construction phase will generate a total production output of approximately R24.2 billion and contribute R8.8 billion to the Gross Domestic Product (GDP). This substantial capital expenditure is expected to stimulate both the local and regional economies, even during the limited timeframe of the construction period. The resulting activity will also support household incomes by nearly R4 billion, with benefits distributed across the construction, supplier, and service industries.

Enhancement Measures

Proposed enhancement measures include:

- The developer should encourage the contractor to increase the local procurement practices and promote the employment of people from local communities, as far as feasible, to maximise the benefits to the local economies;
- The developer should engage with local authorities and business organisations to investigate the possibility of procuring construction materials, goods and products from local suppliers were feasible.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-24: Temporary impact on production and GDP

Criteria	Preferred Alternative	No-Go
Description	**Temporary stimulation of business production and GDP through construction expenditure**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Short-Term**	
Intensity	**Medium to High**	
Reversibility	**Moderate:** Benefit terminated with end of construction	
Irreplaceability	No loss of resources	
Probability	**Definite:** >90% chance of occurring	
Indirect	**Low:** Boost in local supplier demand may create additional job opportunities and income among smaller suppliers, improving regional economic circulation.	
Cumulative	**High** *with various other construction projects, such as Phase 1B, likely to occur within the short- to medium-term future in the V&AW precinct.*	
Confidence	**High**	
Significance (before mitigation / enhancement)	**Medium-High, positive**	n/a
Mitigation / Enhancement Measures	Proposed enhancement measures include: • The developer should encourage the contractor to increase the local procurement practices and promote the employment of people from local communities, as far as feasible, to maximise the benefits to the local economies; • The developer should engage with local authorities and business organisations to investigate the possibility of procuring construction materials, goods and products from local suppliers were feasible.	n/a
Significance (after mitigation / enhancement)	**High, positive**	Neutral

Impact on Employment

Employment created during the construction phase will span a broad range of skill levels, contributing to short-term labour absorption across the region. Based on the SAM model outputs, approximately 16% of total construction employment will be in highly skilled roles, 38% in skilled roles, and 46% in semi-skilled and unskilled roles. This skills breakdown reflects typical industry structures and ensures that opportunities are accessible to a wide cross-section of the workforce.

- Semi-Skilled and Low-Skilled Roles (46%): The majority of construction-related employment will fall into this category, including positions such as general labourers, construction workers, and on-site

support staff. These roles are hands-on and often require physical labour or basic technical know-how, with minimal formal qualifications.
- Skilled Roles (38%): These include tradespeople such as electricians, plumbers, site supervisors, and other artisans who hold specific technical certifications and contribute critical competencies to the construction process.
- Highly Skilled Roles (16%): Although smaller in number, these roles are essential to project execution and include engineers, project managers, environmental consultants, and other professionals involved in planning, technical oversight, and compliance. These positions require advanced qualifications and experience and will typically be engaged for the duration of the construction programme.

In addition to direct employment on-site, the project will indirectly generate employment in related sectors such as manufacturing (e.g. production of construction materials), logistics (e.g. transportation of materials and equipment), and services (e.g. catering, cleaning, and security). Induced employment will also be supported through increased household spending by workers receiving wages during the construction period.

Enhancement Measures

Potential enhancement measures include:
- Where feasible, efforts should be made to employ locally to create maximum benefits to the communities.
- Sub-contract to local construction companies particularly SMMEs and BBBEE complaint enterprises where possible.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-25: Temporary positive impact on employment

Criteria	Preferred Alternative	No-Go
Description	**Short-term employment creation during the construction phase**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional:** within 30 km of site	No change to baseline conditions.
Duration	**Short-term:** 1 to 6 years	
Intensity	The construction of the proposed development will positively impact on the local community and beyond by creating several job opportunities (albeit temporary)	
Reversibility	**Irreversible**	
Irreplaceability	**Low**	
Probability	**Highly Probable:** 50 – 90% chance of occurring	
Indirect	Temporary employment can reduce short-term financial dependency levels and provide a pathway to longer-term job placement and skills recognition.	
Cumulative	**Medium** *with various other construction projects, such as Phase 1B, likely to occur within the short- to medium-term future in the V&AW precinct.*	
Confidence	**High**	
Significance (before mitigation / enhancement)	**Medium-High, positive**	n/a
Mitigation / Enhancement Measures	• Where feasible, efforts should be made to employ locally to create maximum benefits to the communities. • Sub-contract to local construction companies particularly SMMEs and BBBEE complaint enterprises where possible.	n/a

Criteria	Preferred Alternative	No-Go
Description	**Short-term employment creation during the construction phase**	
Significance (after mitigation / enhancement)	**High, positive**	Neutral

Household Income

Local labour during the construction phase should be sourced specifically for unskilled and semi-skilled labour to create employment opportunities that will generate positively toward household income. The proposed development will create employment opportunities during the construction phase. In turn, this will improve household income levels in the primary areas and the broader Western Cape and the City of Cape Town.

An increase in household income levels is due to the anticipated increase in unskilled to skilled employment opportunities that will be created as part of the construction phase of the development. The outcomes from the SAM model estimate the increase in total income to be approximately R3.949 billion because of the capital expenditure of the construction phase. Although temporary, this increase in household earnings will have a positive effect on nutrition, living conditions, access to better health care, access to more options regarding education, and improved ability to make economic choices.

Enhancement Measures

- Where possible, local labour should be considered for employment to increase the positive impact on the local economy.
- Employ labour-intensive methods in construction where feasible.
- Sub-contract to local construction companies first where possible to do so

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-26: Temporary positive impact on household income

Criteria	Preferred Alternative	No-Go
Description	**Short-term increase in household earnings due to construction jobs**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Short-term**	
Intensity	Employed individuals will increase the income of their respective households and thereby experience a temporary improvement in their standard of living.	
Reversibility	**Irreversible**	
Irreplaceability	**Low**	
Probability	**Probable**	
Indirect	Increased short-term household income can support immediate needs such as food, living conditions and transport, improving household resilience.	
Cumulative	**Medium** *with various other construction projects, such as Phase 1B, likely to occur within the short- to medium-term future in the V&AW precinct.*	
Confidence	**High**	
Significance (before mitigation / enhancement)	**Medium, positive**	n/a

Criteria	Preferred Alternative	No-Go
Description	**Short-term increase in household earnings due to construction jobs**	
Mitigation / Enhancement Measures	• Where possible, local labour should be considered for employment to increase the positive impact on the local economy. • Employ labour-intensive methods in construction where feasible. • Sub-contract to local construction companies first where possible to do so	n/a
Significance (after mitigation / enhancement)	**Medium-high positive**	Neutral

Government Revenue

The proposed development during its construction phase, the project is expected to increase government revenue through various avenues. This includes direct taxes from construction permits and fees, corporate taxes paid by contractors and suppliers, and indirect taxes generated by the purchase of materials and goods. Additionally, revenue is anticipated from licensing fees for the and other operational permits. These contributions to government revenue are essential for funding local infrastructure and services across the broader region.

Enhancement Measures

None recommended.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-27: Temporary positive impact on Increased Government Revenue

Criteria	Preferred Alternative	No-Go
Description	**Short-term increase in government revenue through construction-related taxes and fees**	
Status (Nature)	**Positive**	**Neutral**
Extent	**National**	No change to baseline conditions.
Duration	**Short-term**	
Intensity	**Medium**	
Reversibility	Benefit terminated with the end of construction	
Irreplaceability	No irreplaceable loss of resources	
Probability	**Probable**	
Indirect	Short-term public revenue gains can help fund immediate municipal needs such as basic services and temporary infrastructure upgrades.	
Cumulative	**Medium** *with various other construction projects, such as Phase 1B, likely to occur within the short- to medium-term future in the V&AW precinct.*	
Confidence	**High**	
Significance (before mitigation / enhancement)	**Medium positive**	n/a
Mitigation / Enhancement Measures	N/A	n/a
Significance (after mitigation / enhancement)	**Medium positive**	Neutral

Traffic Congestion

During the construction phase of the Granger Bay mixed-use development, temporary disruptions to traffic flow are anticipated along key access routes, including Granger Bay Boulevard, Beach Road, and the M61 (Helen Suzman Boulevard). Construction activities, such as the movement of heavy

vehicles and potential partial road closures, may lead to increased congestion, particularly during peak hours.

Mitigation Measures

To mitigate these impacts, the following measures are proposed:

- Scheduling Deliveries During Off-Peak Hours: Coordinating the transport of construction materials and equipment outside of peak traffic times to minimize congestion.
- Clear Signage and Communication: Implementing well-marked detours and providing real-time traffic updates to inform motorists of alternative routes and expected delays.

These mitigation strategies amongst others, aim to reduce the severity and duration of traffic disruptions during the construction period, ensuring that the impact on daily commuters and local businesses is kept to a minimum.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-28: Temporary impact on traffic congestion

Criteria	Preferred Alternative	No-Go
Description	**Temporary disruption to local traffic flow due to construction-related activities**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change to baseline conditions.
Duration	**Short-term**	
Intensity	Traffic congestion during the construction phase is likely to be a negative impact due to potential delays and disruptions caused by construction activities.	
Reversibility	**Fully reversible**	
Irreplaceability	**Low**	
Probability	**Definite**	
Indirect	None	
Cumulative	**Medium** *depending on timing of other developments within the Granger Bay and broader V&AW precinct such as Phase 1B.*	
Confidence	**Medium - High**	
Significance (before mitigation / enhancement)	**Medium-high, negative**	n/a
Mitigation / Enhancement Measures	• Comply with traffic regulations and management (such as using flag people) to ensure a minimal impact on traffic. • Compliance with traffic management/control measures included in the Environmental Management Programme (EMPr) for the project.	n/a
Significance (after mitigation / enhancement)	**Medium, negative**	Neutral

Noise, Dust and Pollution

During the construction phase of the proposed development, the operation of large equipment and machinery (such as cranes and large trucks) will result in noise and dust emissions. Additionally, land clearance and other construction-related activities will occur, further contributing to noise and dust pollution within the local area.

These factors will undoubtedly affect residents, visitors and landowners in the surrounding area. While this activity is unavoidable, the severity of the anticipated impacts is estimated to be medium, primarily affecting the construction site and surroundings. However, by implementing the identified mitigation measures, these nuisance impacts can be reduced to a point of low significance.

Mitigation Measures

- Comply with polices regarding noise and dust regulation methods close to and on roads and other existing infrastructure.
- Regularly clean and maintain the construction site to prevent the accumulation of dust.

More detailed mitigation measures to manage and monitor noise, dust and pollution impacts from the construction activities are included in detail in the **EMPr (Appendix D).**

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-29: Temporary negative impact on noise, dust and pollution

Criteria	Preferred Alternative	No-Go
Description	**Short-term environmental nuisance from construction activities including dust, noise and air pollution**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change to baseline conditions.
Duration	**Short-term**	
Intensity	Noise and dust emissions from construction activities will temporarily affect nearby businesses and travellers passing by, potentially causing nuisance but manageable through mitigation measures.	
Reversibility	**Partly reversible**	
Irreplaceability	**Low**	
Probability	**Highly probable**	
Indirect	None	
Cumulative	**Medium** *depending on timing of other developments within the Granger Bay and broader V&AW precinct such as Phase 1B.*	
Confidence	**High**	
Significance (before mitigation / enhancement)	**Medium, negative**	n/a
Mitigation / Enhancement Measures	• Comply with polices regarding noise and dust regulation methods close to and on roads and other existing infrastructure. • Regularly clean and maintain the construction site to prevent the accumulation of dust.	n/a
Significance (after mitigation / enhancement)	**Low, negative**	**Neutral**

Sense of Place

During the construction phase of the proposed Development, temporary visual impacts on the sense of place will occur as a result of site establishment activities, land reclamation works, installation of revetments and breakwaters, erection of cranes and scaffolding, temporary lighting, stockpiling of materials, and increased construction-related traffic. The site is located within a sensitive coastal and

heritage context and is visible from multiple public and scenic vantage points, including Fort Wynyard, Beach Road, Signal Hill, Cape Town Stadium, the Water Club, Granger Bay Boulevard, and marine receptors within Table Bay. Given the site's low Visual Absorption Capacity and its prominence within a key tourism and recreational node, construction activities will temporarily alter the coastal skyline, disrupt established views toward Table Bay, introduce visual clutter, and reduce the aesthetic quality of the coastal edge.

The Visual Impact Assessment (Megan Anderson Landscape Architect, 2026), rates the construction-phase visual impact as Medium (-) prior to mitigation, reducing to Low (-) following the implementation of appropriate construction management and visual mitigation measures. Although these impacts will be noticeable to residents, visitors, and users of adjacent public spaces, they are temporary in nature and will cease upon completion of the construction phase. The overall impact on sense of place during construction is therefore considered short-term, localised, and reversible.

Mitigation Measures

- Limit construction footprint
- Manage site lighting
- Implement Construction EMPr visual controls (as per VIA recommendations)

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures

Table 6-30: Temporary impact on sense of place (visual)

Criteria	Preferred Alternative	No-Go
Description	**Visual intrusion during construction impacting scenic and recreational value**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change to baseline conditions.
Duration	**Long-term**	
Intensity	The consequence of the impact or risk includes visual intrusion, and potential disruptions to scenic views	
Reversibility	**Reversible**	
Irreplaceability	Marginal loss of resources	
Probability	**Highly probable**	
Indirect	None	
Cumulative	**Medium,** *depending on timing of other developments within the Granger Bay and broader V&AW precinct such as Phase 1B.*	
Confidence	**Medium**	
Significance (before mitigation / enhancement)	**Medium,-negative**	n/a
Mitigation / Enhancement Measures	- Limit construction footprint - Manage site lighting - Implement Construction EMP visual controls (as per VIA recommendations)	n/a
Significance (after mitigation / enhancement)	**Low, negative**	**Neutral**

Impact on Recreational Boat Use

During the construction phase, activities associated with the realignment of breakwaters and land reclamation may result in temporary disruption to recreational boating activities within Granger Bay. Construction activities will largely be land-based, and access to the bay will remain possible throughout the construction period. Importantly, access to the slipway will remain uninterrupted, with a new slipway facility scheduled to become operational prior to the decommissioning of the existing slipway.

Overall, the impact on recreational boating and associated marine activities during the construction phase is expected to be temporary and manageable. The primary effect will be short-term operational disruption rather than a complete loss of access for recreational boat users and small-scale fishing operators.

Mitigation Measures

- Schedule construction outside peak boating seasons
- Maintain temporary access routes and berthing
- Communicate construction schedule in advance

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-31: Temporary impact on recreational boat use during construction

Criteria	Preferred Alternative	No-Go
Description	**Temporary disruption to recreational boating activities during construction due to limited access and safety concerns**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change to baseline conditions.
Duration	**Short-term**	
Intensity	**Low:** Temporary operational disruption to boating activities and minor reduction in manoeuvring space within the bay, while access to the slipway remains available	
Reversibility	**Fully reversible**	
Irreplaceability	**Low**	
Probability	**High**	
Indirect	Temporary operational adjustments for boating clubs and recreational users	
Cumulative	**Medium**	
Confidence	**Medium**	
Significance (before mitigation / enhancement)	**Medium, negative**	n/a
Mitigation / Enhancement Measures	• Schedule construction outside peak boating seasons • Maintain temporary access routes and berthing • Communicate construction schedule in advance	n/a
Significance (after mitigation / enhancement)	**Low, negative**	**Neutral**

Marine Wildlife-Associated Activities

Granger Bay supports a variety of marine mammals, which will experience disturbance during the construction phase in the form of temporary underwater noise, vibration, and increased human presence within the marine environment. These disturbances may result in the temporary displacement of marine wildlife from the immediate construction area.

Such displacement may reduce the visibility and presence of marine wildlife within Granger Bay during the construction period. While kayaking and stand-up paddle (SUP) tour operators are not formally licensed for marine wildlife tourism, the presence of dolphins and other marine species contributes to the experiential value of their activities and forms part of their marketing appeal. A temporary reduction in wildlife presence may therefore affect the attractiveness of these recreational experiences and could result in short-term economic implications for operators reliant on nature-based coastal activities.

However, these impacts are expected to be temporary and localised to the construction phase. Marine wildlife are highly mobile and are likely to utilise adjacent areas during periods of disturbance and return once construction activities are complete and disturbance levels subside. The implementation of environmental management and mitigation measures will further assist in minimising the extent and duration of disturbance.

Mitigation Measures

- Schedule high-noise construction activities (e.g., rock placement and heavy equipment operation) during daylight hours where feasible to reduce prolonged disturbance.
- Ensure that construction activities comply with applicable marine environmental legislation, including the National Environmental Management Act (NEMA), the Integrated Coastal Management Act (ICMA), and the Marine Living Resources Act.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures

Table 6-32: Temporary negative impact on marine wildlife-associated activities

Criteria	Preferred Alternative	No-Go
Description	**Temporary displacement of marine wildlife due to construction noise and vessel activity, potentially affecting kayak/SUP tourism**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change to baseline conditions.
Duration	**Short-term**	
Intensity	**Medium:** Reduced wildlife presence may lead to fewer bookings and income for wildlife-linked tourism operators	
Reversibility	**High**	
Irreplaceability	**Low**	
Probability	**Highly likely**	
Indirect	Operators may experience reduced demand during peak construction if wildlife sightings decline temporarily	
Cumulative	**Medium,** *while other land-based construction would have a less significant impact than the marine construction activities required for the reclamation.*	
Confidence	**Medium**	

Criteria	Preferred Alternative	No-Go
Description	**Temporary displacement of marine wildlife due to construction noise and vessel activity, potentially affecting kayak/SUP tourism**	
Significance (before mitigation / enhancement)	**Medium negative**	n/a
Mitigation / Enhancement Measures	• Schedule high-noise construction activities (e.g., rock placement and heavy equipment operation) during daylight hours where feasible to reduce prolonged disturbance. • Ensure that construction activities comply with applicable marine environmental legislation, including the National Environmental Management Act (NEMA), the Integrated Coastal Management Act (ICMA), and the Marine Living Resources Act	n/a
Significance (after mitigation / enhancement)	**Low, negative**	Neutral

Disruption from Land Reclamation

The construction phase of the proposed land reclamation at Granger Bay is expected to result in short- to medium-term disruptions to parking availability in the immediate area. These effects may inconvenience local residents, visitors, and businesses that rely on easy access to coastal amenities, parking areas, and event spaces near the development footprint. For example, the temporary occupation of land for construction staging, fencing, and material stockpiling may limit access to some parking bays or increase congestion near the previous Oranjezicht City Farm Market site and adjoining areas.

While these disruptions are expected to be localised and temporary, they could affect visitor convenience and user experience, especially over weekends or during events. Proactive mitigation through clear signage, communication of construction timelines, and the provision of alternative access routes or parking arrangements can help minimise the overall impact.

At the same time, the construction phase will generate various employment opportunities, categorised as follows:

- Skilled Jobs: Civil engineers, site managers, project planners, environmental officers.
- Semi-Skilled Jobs: Equipment operators, construction supervisors.
- Unskilled Jobs: Labourers, cleaners, site assistants.
- Temporary Jobs: Construction workers, logistics personnel, on-site support staff.

These employment opportunities will support both direct on-site employment and indirect opportunities through supply chain.

Mitigation Measures

- Maintain some access routes.
- Maintain temporary access routes where possible.
- Engage affected operators early to identify and address disruption concerns.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures

Table 6-33: Temporary negative disruption from land reclamation during the construction phase

Criteria	Preferred Alternative	No-Go
Description	**Temporary disruption to economic activity and informal trading during reclamation**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change to baseline conditions.
Duration	**Short-term**	
Intensity	**Medium:** Moderate economic disturbance, especially for small-scale marine users (tourism, boating, or fishing)	
Reversibility	**High**	
Irreplaceability	**Low**	
Probability	**High**	
Indirect	**None**	
Cumulative	**Medium**	
Confidence	**Medium**	
Significance (before mitigation / enhancement)	**Medium negative**	n/a
Mitigation / Enhancement Measures	• Maintain some access routes. • Maintain temporary access routes where possible. • Engage affected operators early to identify and address disruption concerns.	n/a
Significance (after mitigation / enhancement)	**Low negative**	**Neutral**

6.3.18 Climate-change Risks & Impacts

*A Climate Change Impact Assessment was conducted by Philippa Burmeister, Gareth Ian van der Walt, and Joss Cahi of SRK Consulting (2026), included as **Appendix B1**. The report indicates that climate change is driven by broad-scale systemic changes and that the proposed project itself ultimately will have little effect on climate change. Thus, the assessment focuses instead on the potential risks of climate change driven hazards for the proposed development and proposes mitigation measures to limit these risks. The report also details the benefits of the development post-construction.*

Climate-change driven construction phase risks

The construction phase of the development is anticipated to experience the following risks:

- High wind speeds and associated storm surge delays construction and/or damages equipment.
- High shear stress impacts the settling of sand, concrete, etc. used for construction, delaying completion.

The climatic changes anticipated are unlikely to impact the construction phase of the project considering the majority of changes are only anticipated to occur post-2030. The construction of the Granger Bay Development could, however, be delayed as a result of the shear stress influences and wave impacts experienced at certain times of the year and in certain areas of the proposed development zone. Any equipment damage and delays noted during construction would occur in the short-term and could be easily mitigated.

Mitigation Measures

No specific mitigation measures are proposed. The contractors would have the technology and financial means to address any issues noted, resulting in very low significance ratings.

Impact Assessment

The following tables present the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures

Table 6-34: High wind speeds and associated storm surge delays construction and/or damages equipment.

Criteria	Preferred Alternative	No-Go
Description	**High wind speeds and associated storm surge delays construction and/or damages equipment.**	
Status (Nature)	**Negative**	N/A
Extent	**Site-specific:** This impact is specific to the development footprint.	N/A
Duration	**Short-term:** Less than 5 years	
Intensity	**Low:** Common hazard for coastal infrastructure projects.	
Reversibility	**Moderate:** Depending on the extent, equipment and construction materials can be replaced/repaired, where required.	
Irreplaceability	**Replaceable:** Although costly, material and equipment can be insured and replaced. Construction programmes can be adjusted to make up for lost time, where feasible.	
Probability	**Probable:** <50% chance of occurring	
Indirect	**Medium:** All other construction related impacts are extended slightly in duration.	
Cumulative	n/a	
Confidence	**Medium:** While it is well-known that this risk increases in winter, predicting weather and ocean conditions always has inherent uncertainty.	
Significance (before mitigation)	**Very Low, negative**	
Mitigation/Enhancement Measures	**Not required due to the low significance of the impact.**	
Significance (after mitigation)	**Very Low, negative**	**N/A**

Table 6-35: High shear stress impacts the settling of sand, concrete, etc. used for construction, delaying completion.

Criteria	Preferred Alternative	No-Go
Description	**High shear stress impacts the settling of sand, concrete, etc. used for construction, delaying completion.**	
Status (Nature)	**Negative**	N/A
Extent	**Site-specific:** This impact is specific to the development footprint.	N/A
Duration	**Short-term:** Less than 5 years	
Intensity	**Medium**	
Reversibility	**Moderate**	
Irreplaceability	**Replaceable**	
Probability	**Highly Probable:** 50 – 90% chance of occurring	
Indirect	**Medium:** All other construction related impacts are extended slightly in duration.	
Cumulative	n/a	
Confidence	**Medium**	
Significance (before mitigation)	**Low, negative**	
Mitigation/Enhancement Measures	**Not required due to the low significance of the impact.**	
Significance (after mitigation)	**Low, negative**	**N/A**

6.4 Post-Construction Phase Impacts

6.4.1 Impacts on coastal dynamics

An Oceanographic Specialist Study was conducted by Enrique Julyan and Hardus Diedericks of WML Coast (Pty) Ltd to assess the impact of the proposed development on the existing wave characteristics of the proposed site and the greater Table Bay area. The study constituted an independent review of, comment on, and assessment of impacts based on the detailed hydrodynamic modelling and related design work by PRDW Coastal Engineers. The independent specialists found that the hydrodynamic model setup used by PRDW, the scenarios and the results were all considered to be robust, and the conclusions were deemed acceptable. Refer to ***Appendix B5*** *for more details.*

All impacts assessed in this section refer to the Post-Construction Phase, after completion of the proposed breakwaters and revetments. Refer also to section 2.3 of this report for the PRDW modelling outputs.

Wave reflections into Table Bay

Short-period, wind-generated waves as well as long-period waves will reflect off the 'East' and 'West' breakwaters and can alter wave conditions for up to 500m from the breakwaters. The changes in total wave heights are considered to be small and should be around 15cm. The reflected waves will not travel more than 500m into Table Bay (Figure 6-1).††† There are limited mitigation options available to reduce the intensity or probability of this impact, and therefore the impact remains of Low significance with mitigation.

Mitigation Measures

Not required due to the low significance of the impact.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures

Table 6-36: Wave reflections into Table Bay

Criteria	Preferred Alternative	No-Go
Description	**Wave reflections into Table Bay**	
Status (Nature)	**Negative**	None
Extent	**Local:** The reflected waves will not travel more than 500m into Table Bay and will not reach the Bloubergstrand beach or Milnerton beach.	No change to baseline conditions.
Duration	**Long-term:** The impact will be permanent.	
Intensity	***Low:*** *The anticipated change in wave heights of up to 0.5 m in the near field, and on average 0.15 m in the neighbouring marina, is of low intensity.*	
Reversibility	**Low:** Given the nature of the project and that no decommissioning phase has been envisaged, this impact is irreversible.	
Irreplaceability	n/a (wave dynamics are not a finite resource, but rather indicate the state of an existing system that can be altered)	
Probability	**Probable:** <50% chance of occurring.	

††† Significant changes in wave heights will therefore certainly not be measurable as far afield as the Blouberg beach or Milnerton beach, noting that this concern has been raised by stakeholders.

Criteria	Preferred Alternative	No-Go
Description	**Wave reflections into Table Bay**	
Indirect	**Low:** There is potential to change patterns in coastal wave dynamics, such as erosion and deposition. However, given that changes in wave dynamics are anticipated no further than 500m from the site, this is unlikely.	
Cumulative	**Low:** Minor contribution to the altered wave dynamics for the Tale Bay region.	
Confidence	**High:** The wave transformation model used and wave conditions assessed are considered robust by the specialists. *A sensitivity test was undertaken to confirm that simulation periods accurately represent long-wave behaviour. Extreme cases (1:475-year scenario) have also been included in the data analysis.*	
Significance (before mitigation)	**Low, negative**	
Mitigation Measures	**Not required due to the low significance of the impact.**	
Significance (after mitigation)	**Low, negative**	**None**

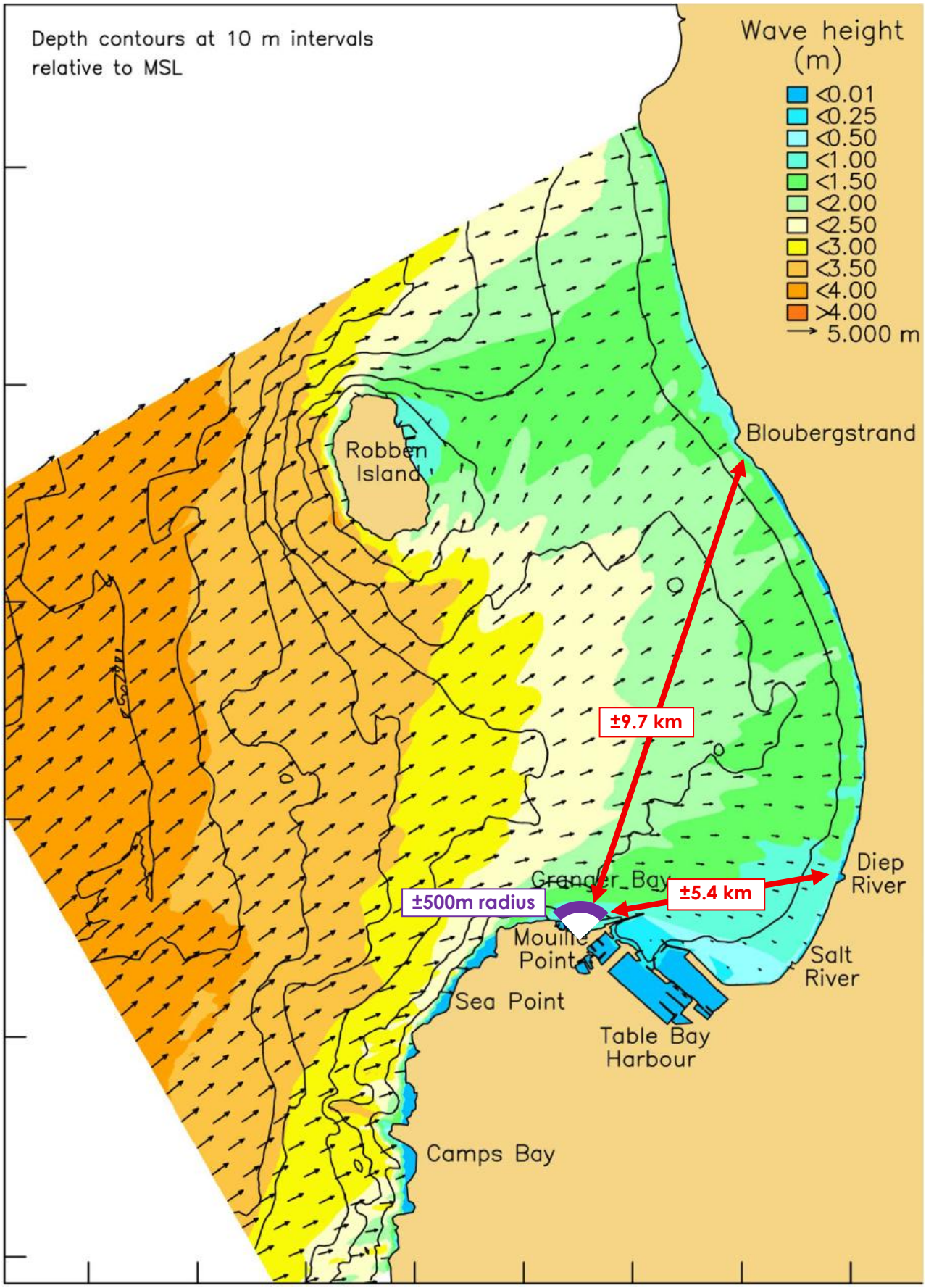


Figure 6-10: The impact radius of 500m, as well as distances relative to places of interest along the Table Bay coastline, have been added (WML, 2025).

Longshore sediment transport

The coastline around the development area is a rocky coast, and it is anticipated that no changes will occur in the sediment transport regime due to the proposed revetment and breakwaters, except for potential accumulation of finer sediments within the proposed new bay as discussed in Section 2.3.4. *If significant sand transport were indeed taking place along this section of the shore, sand would be expected to deposit in the sheltered entrance channel of the Port of Cape Town (see Figure 6-11) and to require maintenance dredging. No such deposition has occurred along the approach channel for the Port of Cape Town, indicating that no significant longshore transport occurs in this part of the bay.* Only the changes in the wave regime are relevant to broader coastal processes and are assessed here. There are limited mitigation options available to reduce the intensity or probability of this impact, and therefore, the impact remains of Low significance with mitigation.



Figure 6-11: Naval chart of Granger Bay and Port of Cape Town approach channel (PRDW, 2026)

Mitigation Measures

Not required due to the low significance of the impact.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-37: Longshore sediment transport

Criteria	Preferred Alternative	No-Go
Description	**Longshore sediment transport**	
Status (Nature)	**Negative**	No change to baseline conditions.
Extent	None	
Duration	None	
Intensity	None	
Reversibility	n/a (No changes in the sediment regime anticipated outside the Granger Bay Marina)	
Irreplaceability		
Probability	**Improbable:** Little or no chance of occurring	
Indirect	None	

Criteria	Preferred Alternative	No-Go
Description	**Longshore sediment transport**	
Cumulative	None	
Confidence	**High:** The wave transformation model used, and wave conditions assessed are considered robust by the specialists.	
Significance prior to mitigation/enhancement	**Insignificant, negative**	**Neutral**
Mitigation / enhancement measures	None required due to insignificance.	**N/A**
Significance after mitigation/enhancement	**Insignificant, negative**	**Neutral**

Short-wave reflections towards the Granger Bay Marina

The short-period, wind-generated waves that reflect towards the Granger Bay Marina (mostly from the 'West' breakwater) will arrive perpendicularly to the direction in which boats enter or exit the marina. It is possible that boats moving into or out of the marina will experience short waves with low wave heights from the side that may influence navigation. There are limited mitigation options available to reduce the intensity or probability of this impact, and therefore, the impact remains of Low significance with mitigation. *Furthermore, modelling results show very small changes at the marina entrance even for extreme wave conditions.*

Mitigation Measures

Not required due to the *very* low significance of the impact.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-38: Short-wave reflections towards the Granger Bay Marina

Criteria	Preferred Alternative	No-Go
Description	**Short-wave reflections towards the Granger Bay Marina**	
Status (Nature)	**Negative**	None
Extent	**Local:** This impact focuses on the Granger Bay Marina specifically.	No change to baseline conditions.
Duration	**Long-term:** The impact will last as long as the operational phase of the project.	
Intensity	**Low:** The anticipated 15cm change in wave heights is considered to be small.	
Reversibility	**Low:** Given the nature of the project and that no decommissioning phase has been envisaged, this impact is irreversible.	
Irreplaceability	n/a (wave dynamics are not a finite resource, but rather indicate the state of an existing system that can be altered)	
Probability	*Possible*	
Indirect	**Low:** Possible slightly increased safety risk entering or leaving the Granger Bay Marina.	
Cumulative	Minor contribution to change in wave dynamics	
Confidence	**High:** The wave transformation model used and wave conditions assessed are considered robust by the specialists. *Extreme cases (1:475-year scenario) have also been included in the data analysis.*	
Significance (before mitigation)	**Very Low, negative**	
Mitigation/Enhancement Measures	**Not required due to the low significance of the impact.**	
Significance (after mitigation)	**Very Low, negative**	**None**

Long-wave reflections towards the Granger Bay Marina

The long-period waves that reflect towards the Granger Bay Marina (mostly from the 'West' breakwater) will enter the marina and may cause seiches or water level surges in the marina. During the 1970s, the Granger Bay harbour (prior to being the Granger Bay Marina) was prone to harbour resonance. *However, modelling results show very small (maximum of about 12 cm) changes in the basin-averaged total significant wave heights, and the new proposed breakwaters and the Granger Bay Marina breakwater will not induce resonance in the marina.*

Mitigation Measures

Mitigation is not required due to the impact being of Very Low significance even without mitigation.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-39: Long-wave reflections towards the Granger Bay Marina

Criteria	Preferred Alternative	No-Go
Description	**Long-wave reflections towards the Granger Bay Marina**	
Status (Nature)	**Negative**	None
Extent	**Local:** This impact focuses on the Granger Bay Marina specifically.	No change to baseline conditions.
Duration	**Long-term:** The impact will last as long as the operational phase of the project.	
Intensity	**Medium:** Wave reflections will occur off the western breakwater into the Granger Bay Marina.	
Reversibility	**Low:** Given the nature of the project and that no decommissioning phase has been envisaged, this impact is irreversible.	
Irreplaceability	n/a (wave dynamics are not a finite resource, but rather indicate the state of an existing system that can be altered)	
Probability	**Improbable:** Little or no chance of occurring.	
Indirect	**Medium:** Possible impact on berthing and mooring conditions as well as marina infrastructure.	
Cumulative	Minor contribution to change in wave dynamics	
Confidence	**High:** The wave transformation model used and wave conditions assessed are considered robust by the specialists. *A sensitivity test was done to confirm simulation periods accurately represent long-wave behaviour. Extreme cases (1:475-year scenario) have also been included in the data analysis.*	
Significance (before mitigation)	**Very Low, negative**	
Mitigation/Enhancement Measures	***Not required due to the very low significance of the impact.***	
Significance (after mitigation)	**Very Low, negative**	**None**

Effect of wave reflections on the existing Granger Bay Marina main breakwater

The waves that reflect onto the Granger Bay Marina breakwater (mostly from the 'West' breakwater) can lead to increased wave heights at the breakwater. *Modelling of extreme waves (475-year return period) show a small (about 4 cm) increase in significant wave height at the breakwater which is insignificant in terms of breakwater stability. There are limited mitigation options to reduce the intensity or probability of this impact but are not required due to the impact being insignificant even without mitigation.*

Mitigation Measures

Not required due to the low significance of the impact.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-40: Short and long wave reflections onto the main Granger Bay Marina breakwater

Criteria	Preferred Alternative	No-Go
Description	**Effect of wave reflections on the existing Granger Bay Marina main breakwater**	
Status (Nature)	**Negative**	None
Extent	**Local:** This impact focuses on the Granger Bay Marina specifically.	No change to baseline conditions.
Duration	**Long-term:** The impact will last as long as the operational phase of the project.	
Intensity	***Insignificant***	
Reversibility	**Low**: Given the nature of the project and that no decommissioning phase has been envisaged, this impact is irreversible.	
Irreplaceability	**Low:** The Granger Bay Marina breakwater can be repaired/rebuilt.	
Probability	**Improbable:** Little or no chance of occurring.	
Indirect	**n/a**	
Cumulative	**Very Low:** *Modelling of extreme waves show a 4cm increase in significant wave height.*	
Confidence	**High:** The wave transformation model used and wave conditions assessed are considered robust by the specialists. *A sensitivity test was done to confirm simulation periods accurately represent long-wave behaviour. Extreme cases (1:475-year scenario) have also been included in the data analysis.*	
Significance (before mitigation)	***Insignificant, negative***	
Mitigation/Enhancement Measures	***Not required due to the low significance of the impact.***	
Significance (after mitigation)	***Insignificant, negative***	**None**

Effect of wave reflections on the existing Granger Bay Marina lee breakwater

The reflection of waves from the offshore side of the new proposed breakwaters onto the outside of the Granger Bay Marina lee breakwater (mostly from the offshore side of the new 'West' breakwater) can lead to increased wave heights at this breakwater. Modelling of extreme waves (475-year return period) shows an increase of about 17% in significant wave height at the breakwater. However, these reflected waves run nearly parallel to the lee breakwater, and it is expected that the effect of the increase in wave height from this direction will not impact on the stability of the breakwater, thus rendering the impact of the increased wave height insignificant in terms of breakwater stability. There are limited mitigation options to reduce the intensity or probability of this impact but are not required due to the impact being of Very Low significance even without mitigation.

Mitigation Measures

Not required due to the low significance of the impact. However, as a precautionary measure, it is recommended that, prior to the commencement of construction of the new western breakwater, all known technical data and information relating to the condition of the existing breakwater be made available to the V&A Waterfront and a baseline study be undertaken to establish its pre-construction condition, against which any future change identified during periodic monitoring can be assessed. Thereafter, regular monitoring of the condition of the breakwater should be undertaken, with rehabilitation when necessary.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-41: Short and long wave reflections onto the lee Granger Bay Marina breakwater

Criteria	*Preferred Alternative*	*No-Go*
Description	***Short and long wave reflections onto the Granger Bay Marina breakwater***	
Status (Nature)	***Negative***	*None*
Extent	***Local:*** *This impact focuses on the Granger Bay Marina specifically.*	*No change to baseline conditions.*
Duration	***Long-term:*** *The impact will last as long as the operational phase of the project.*	
Intensity	***Insignificant***	
Reversibility	***Low****: Given the nature of the project and that no decommissioning phase has been envisaged, this impact is irreversible.*	
Irreplaceability	***Low:*** *The Granger Bay Marina breakwater can be repaired/rebuilt.*	
Probability	***Improbable:*** *Little or no chance of occurring, as waves travel parallel to the breakwater – perpendicular wave action has a more significant impact on breakwater stability.*	
Indirect	***Low:*** *The increased wave heights may exceed the design criteria of the breakwater or cause increased damage to the breakwater.*	
Cumulative	***Low:*** *Stability of existing breakwaters not anticipated to be affected.*	
Confidence	***High:*** *The wave transformation model used and wave conditions assessed are considered robust by the specialists. A sensitivity test was done to confirm simulation periods accurately represent long-wave behaviour. Extreme cases (1:475-year scenario) have also been included in the data analysis.*	
Significance (before mitigation)	***Very Low, negative***	
Mitigation/Enhancement Measures	***Regular monitoring of the condition of the breakwater with rehabilitation when necessary.***	
Significance (after mitigation)	***Very Low, negative***	***None***

Impacts on Small Craft Operations

Total wave heights will be reduced at the new slipway and lead to more favourable launch conditions than those experienced at OPBC. Users navigating to the exit of the development zone (opening between the 'East' and 'West' breakwaters) will encounter a circulating eddy current as well as a tidal current. Although the tidal currents are small, they will increase in magnitude in the opening to the development, which may give stronger currents than expected. The user may also experience higher than normal wave heights near the centre of the development due to resonance. There are limited physical mitigation options available, but users can be made aware of the possible effects that they may encounter *and can follow the lee side of the breakwater to avoid encountering the eddy*. Regardless, the significance remains very low.

Mitigation Measures

Users made aware of the possible effects that they may encounter, such as appropriate signage near the slipway.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-42: Impacts on Small Craft Operations

Criteria	Preferred Alternative	No-Go
Description	**Impacts on Small Craft Operations**	
Status (Nature)	**Negative**	None
Extent	**Local:** This impact considers wave dynamics within the development.	No change to baseline conditions.
Duration	**Long-term:** The impact will last as long as the operational phase of the project.	
Intensity	**Low:** Navigation within the development may be difficult in specific areas. Launching conditions will be improved, and current speeds and wave heights are reduced overall.	
Reversibility	**Low:** Given the nature of the project and that no decommissioning phase has been envisaged, this impact is irreversible.	
Irreplaceability	n/a (wave dynamics are not a finite resource, but rather indicate the state of an existing system that can be altered)	
Probability	**Possible:** <50% chance of occurring	
Indirect	**Low:** Minor difficulty in navigation within the development in certain areas of the new bay.	
Cumulative	**Low:** The coastline in this area is generally developed. The proposed development would have a very localised impact on wave dynamics, having a very minor impact on vessel operations more generally.	
Confidence	**Medium**	
Significance (before mitigation)	**Very Low, negative**	
Mitigation/Enhancement Measures	**Users made aware of the possible effects that they may encounter, such as appropriate signage near the slipway.**	
Significance (after mitigation)	**Very Low, negative**	**None**

6.4.2 Marine Ecosystem Impacts in the post-construction phase: Change in habitat and system function

*A Marine Impact Assessment was conducted by Amy Wright, Megan Jackson, Lily Bovim and Adam Rees of Anchor Environmental Consultants (Pty) Ltd to assess the impact of the proposed development on the surrounding marine ecosystems (**Appendix B3**). A specialist study by Dr Simon Elwen of SeaSearch informed the assessment of impacts on cetaceans and other marine mammals (**Appendix B4**).*

The loss of sandy benthic habitat during construction will persist after the construction phase. The area is classified as Cape Mixed Shore so a shift in habitat from sandy benthic habitat to rocky reef habitat is complementary to existing habitat type, albeit artificial.

The revetment structure will modify local wave dynamics once established, by altering how wave energy is reflected and dissipated along the shoreline. The PRDW and WML reports also identified that shear stress is reduced in sheltered areas and therefore there is some risk of longer-term mud accumulation within the proposed new bay. These changes in wave and sediment dynamics may have ecological consequences, particularly for intertidal and shallow subtidal habitats that are sensitive to sediment dynamics, including the rocky reef fauna and any adjacent kelp habitats. Furthermore, changes in wave climate may alter accessibility of intertidal zones to foraging species, thereby altering ecosystem function along the modified shoreline. Overall, the anticipated impacts associated with changes in hydrodynamics as a result of the development are considered to be relatively low, and thus are unlikely to have a significant impact on overall ecosystem function.

The increased vessel activity/operations of the reclaimed area may also result in increased pollution sources, which need to be carefully managed to limit further degradation of these habitats.

Mitigation Measures

It is unlikely, however, that these changes will result in significant, long-term changes to ecological processes of Table Bay or surrounds. This the impact is considered to be of very low significance with mitigation. Mitigation measures include:

- The project design must account for potential changes in hydrodynamic function and ensure that resultant local changes in hydrodynamics do not cause significant, ongoing scour of the seabed.
- Ensure potential pollution sources (including bilge water and greywater etc.) associated with the development are managed to avoid pollution which may further degrade these habitats.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-43: Change in habitat and system function

Criteria	Preferred Alternative	No-Go
Description	**Change in habitat and system function**	
Status (Nature)	**Negative**	None
Extent	**Local:** <2km from the site	No change to baseline conditions.
Duration	**Long-term:** The impact will cease after the operational life of the activity.	
Intensity	**Low:** Minor change to wave dynamics is anticipated.	
Reversibility	Moderate	
Irreplaceability	**Low:** The loss of sandy benthic habitat during construction is irreplaceable. However, this is only for the site footprint. A shift in habitat from sandy benthic habitat to rocky reef habitat is complementary to existing habitat type, albeit artificial.	
Probability	**Probable:** <50% chance of occurring	
Indirect	**Very Low:** It is unlikely that these changes will result in significant, long-term changes to ecological processes of Table Bay or surrounds.	
Cumulative	**Medium**	
Confidence	**Medium**	
Significance (before mitigation)	**Low, negative**	
Mitigation/Enhancement Measures	See above	
Significance (after mitigation)	**Very low, negative**	**None**

6.4.3 Marine Ecosystem Impacts: Loss of rocky shore habitat and introduction of artificial habitat

Refer to the Marine Impact Assessment – Appendix B3 for more details and references.

In cases where natural rocky shore (NBA 2018 Cape Mixed Shore) habitat has been removed or modified to accommodate the revetment, the operational phase will reflect a shift in habitat type from natural intertidal rock platforms to artificial, engineered hard surfaces. The revetment will however be colonised over time by marine organisms, as evidenced by the current rocky subtidal communities present on the dolosse of the Port. Indeed, the dolosse of Table Bay breakwater are a highly heterogeneous habitat, home to an abundance of West Coast rock lobster (*J. lalandii)*, crabs (*Plagusia chabrus)* and urchins (*Parechinus angulosus)* living among the mussels, kelp and red bait. Artificial habitats, however, may be susceptible to colonisation by non-native or invasive species,

which can further alter the ecological balance and outcompete native biota. The shift from natural to artificial habitat may also impact species that rely on intertidal zones for specific life history functions, such as spawning, feeding, or sheltering during tidal fluctuations.

Mitigation Measures

The total area of 'natural' rocky intertidal habitat to be lost is extremely small - almost all of the rocky habitat within the development area is artificial, except for the scattered offshore reef structures. Therefore, this impact is rated as of low significance before mitigation, given the long-term nature of the impact, with no practical mitigation possible.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-44: Loss of rocky shore habitat, introduction of artificial habitat

Criteria	Preferred Alternative	No-Go
Description	**Loss of rocky shore habitat, introduction of artificial habitat**	
Status (Nature)	**Negative**	None
Extent	**Local:** <2km from the site	No change to baseline conditions.
Duration	**Long-term:** The impact will cease after the operational life of the activity.	
Intensity	**Low:** Small, permanent loss of natural rocky shore habitat, with some replacement of artificial habitat.	
Reversibility	**Low**: Impacts are reversible	
Irreplaceability	**Low:** Permanent loss of natural rocky shore habitat, with some replacement of artificial habitat.	
Probability	**Definite:** >90% chance of occurring	
Indirect	**Low:** Small chance of colonisation by non-native or invasive species in artificial habitat.	
Cumulative	**Medium**	
Confidence	**Medium**	
Significance (before mitigation)	**Low, negative**	
Mitigation/Enhancement Measures	**No practical mitigation possible**	
Significance (after mitigation)	**Low, negative**	**None**

6.4.4 Impacts on West Coast Rock Lobster over the long term

Refer to the Marine Impact Assessment – Appendix B3 for more details and references.

While there is are anticipated negative impact on West Coast rock lobster populations in Granger during the construction phase impacts (of low negative significance), the evidence suggests that dolosse provide important habitat for the species. As such, the installation of new dolosse as part of the development is expected to provide an increased area of such habitat for recolonisation, which may support ecological recovery of the species over time. This impact is therefore rated as of low, positive significance.

Mitigation Measures

None required – positive impact.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-45: Impacts on West Coast Rock Lobster over the long term

Criteria	Preferred Alternative	No-Go
Description	**Impacts on West Coast Rock Lobster over the long term**	
Status (Nature)	**Positive**	None
Extent	**Local:** <2km from the site	No change to baseline conditions
Duration	**Long-term:** The impact will cease after the operational life of the activity.	
Intensity	**Low:** Relatively small contribution to habitat availability.	
Reversibility	**Moderate:** Impacts may be reversed.	
Irreplaceability	**Moderate**	
Probability	**Probable:** <50% chance of occurring	
Indirect	**Low:** Relatively small contribution to habitat availability.	
Cumulative	**Low:** Supports ecological recovery of the species over time.	
Confidence	**Medium**	
Significance (before mitigation)	**Low, positive**	
Mitigation/Enhancement Measures	**Not required – positive impact.**	
Significance (after mitigation)	**Low, positive**	**None**

Increased vessel traffic

Following completion of the infrastructure, vessel traffic in Granger Bay is expected to increase. This will include commercial, recreational, and potentially fishing and tourism vessels using the new facilities. Increased vessel activity poses a range of ecological risks, many of which are cumulative in nature. Underwater noise from engines and propellers can disrupt the behaviour, communication, and navigation of marine species. Additionally, routine discharges associated with vessel operations, such as bilge water, greywater, and deck runoff, can introduce pollutants, degrade water quality, and impact sensitive marine organisms. Ballast water and biofouling on hulls present a persistent threat of introducing invasive marine species, which can become established and outcompete native flora and fauna. Over time, these pressures may alter the species composition and functioning of local marine ecosystems, particularly within the semi-enclosed environment of Granger Bay.

Mitigation Measures

These impacts can be mitigated successfully, resulting in an impact of very low significance with mitigation. Mitigation measures include:

- Designate speed-restricted areas within Granger Bay to reduce underwater noise and minimise the risk of vessel strikes on marine fauna.
- Follow local legislation and international best-practice guidelines for bilge and greywater discharge, with clear signage and training for all harbour users.
- Awareness and reporting: Conduct regular environmental awareness campaigns for vessel operators, and implement a system for reporting marine mammal sightings and pollution events.

Impact Assessment

The following table presents the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures.

Table 6-46: Increased vessel traffic

Criteria	Preferred Alternative	No-Go
Description	**Increased vessel traffic**	
Status (Nature)	**Negative**	None
Extent	**Local:** <2km from the site	No changes to baseline conditions
Duration	**Long-term:** The impact will cease after the operational life of the activity.	
Intensity	**Medium**	
Reversibility	**Moderate:** Certain impacts associated with increased vessel presence can be reversed (e.g., noise), while others cannot (e.g., discharges)	
Irreplaceability	**Moderate:** Species' responses to noise are unpredictable to some extent. Species replaceability also depends on sensitivity and population size.	
Probability	**Probable:** <50% chance of occurring	
Indirect	**Moderate:** Pressures may alter the species composition and functioning of local marine ecosystems.	
Cumulative	**Low:** The area is already highly impacted by human activities due to the proximity to the Port of Cape Town, Oceana Power Boat Club slipway for small power vessels and the Waterclub/Granger Bay marina for medium sized private vessels.	
Confidence	**Medium**	
Significance (before mitigation)	**Medium, negative**	
Mitigation/Enhancement Measures	See above	
Significance (after mitigation)	**Very low, negative**	**None**

6.4.5 Impacts on Marine Mammals

Refer to the Marine Impact Assessment – Appendix B3, and Marine Mammal Assessment – Appendix B4 for more details and references.

The proposed development will involve land reclamation, leading to complete and irreversible habitat loss in the reclaimed area. Given the known distribution and habitat use of cetaceans in Table Bay, the habitat loss component of this project can be considered as limited to Heaviside's dolphins, as all other cetaceans tend to occur further from shore and visits are typically short lived.

It is likely that the resident dolphins will move away from the site during construction, especially during noisier periods (rock dumping, etc.), which may result in a temporary emigration from the site. While there is evidence of this type of emigration, but then subsequent return, in a number of other species of dolphin and porpoise during construction projects, there is a chance that this emigration could be permanent. Permanent abandonment of the site would result in an impact of medium significance - noting that no mitigation is possible, but also that confidence in this assessment is rated as low. However, the creation of the land reclamation area will replace the current sheltered marine environment of Granger Bay with a type of habitat - while the direct area of habitat loss will be permanent, the same type of area will be present after construction, which may facilitate the dolphins' return. Partial abandonment of and return to the site over time will result in an impact of low significance - note that no mitigation is possible, but that confidence in this assessment is rated as medium, given the prior evidence of return for similar construction projects.

Mitigation Measures

None possible.

Impact Assessment

The following table presents the significance rating of the two possible impacts for the resident dolphin population.

Table 6-47: Impacts on marine mammals

Criteria	Preferred Alternative		No-Go
Description	**Permanent abandonment**	**Partial abandonment and return**	**None**
Status (Nature)	**Negative**	**Negative**	**Neutral**
Extent	**Local:** <2km from the site	**Local**: <2km from the site	No change to baseline conditions
Duration	**Long-term:** The impact will cease after the operational life of the activity.		
Intensity	**High:** Permanent abandonment.	**Low:** Temporary emigration from the site	
Reversibility	**Permanent:** Potentially non-reversible	**Partially reversible:** Dolphins may return to the bay area.	
Irreplaceability	**Moderate:** Heaviside's dolphins may return to the site.		
Probability	**Possible**	**Possible**	
Indirect	**Low:** Negative effect on marine eco-tourism industry.		
Cumulative	**Medium**	**Medium**	
Confidence	**Low**	**Medium**	
Significance	**Medium, negative**	**Low, negative**	**Neutral**

6.4.6 Change in visual character and impact on scenic resources

*A Visual Impact Assessment was conducted by visual specialist Megan Anderson as an informant into the HIA. The VIA is attached as **Appendix B8** and the HIA is attached as **Appendix B6**. The operational phase visual impacts are described below. As per HWC's request, the VIA has assessed the impacts comparatively with the Straight-Line Revetment (2018 Scheme – Already Authorised). This comparative assessment is reported only where specifically requested by HWC. HWC's Final Comment can be found in Appendix C2.*

The character, scenic resources and sense of place of the site will change from a mostly vacant and derelict area, albeit it adjacent to the shoreline, to a high-density development with tall buildings. There is provision for positive street level interface conditions along public realms.

The greatest building height and massing is located towards the corner of Granger Bay Boulevard and Beach Road in the southeast with taller buildings clustered at gateway locations. This is in keeping with other approved buildings in those areas. Buildings will cascade down towards the ocean and positive street interfaces and setbacks for taller buildings are proposed along key public streets and open spaces.

There are a number of developments in and around the proposed development, which add to the cumulative visual impact of the proposed development. These include:

- *Previously approved Phase 1 Granger Bay mixed-use development immediately adjacent to this proposed development*
- *The approved Somerset Precinct Regeneration project with 270,000m² GLA, social housing units, office and retail spaces, while preserving the important heritage resources on the site,*

» *The Granger, mixed - use development under construction adjacent to the Cape Town Stadium and Granger Bay Boulevard, and*
» *Breakwater Phase 1b (the site includes a portion of Erven 149294/RE, 158570/RE as well as a portion of Erf 177854 and 179076 V&A Waterfront in central Cape Town. It comprises four development parcels commonly labelled O, P, a1 and a2, comprising Phase 1B [Breakwater North]) which forms the subject of a separate but concurrent EIA process (as described in Section 2.6).*



Figure 6-12: Surrounding development within the V&A Waterfront precinct.

The cumulative impacts of the proposed development, together with the surrounding approved developments as discussed above, will be additive in nature and ***medium*** *in significance as the current proposal has considered mitigation measures previously proposed.*

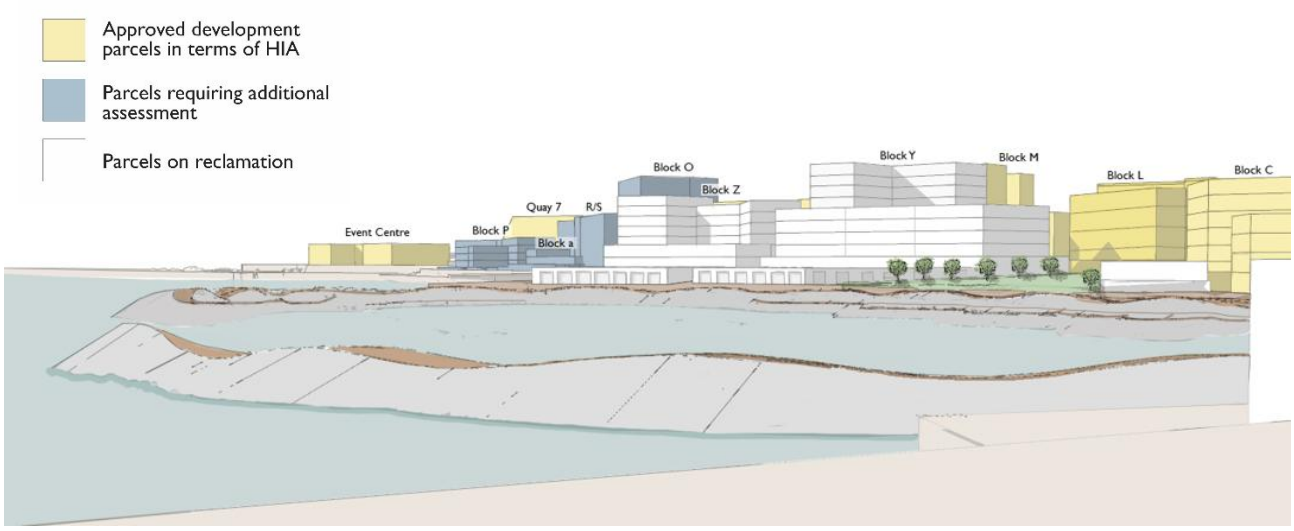


Figure 6-13: Development proposals (maximum building envelopes) on and adjacent to proposed reclaimed land, looking east across the proposed new bay.

Mitigation Measures

» The visual intrusion of vehicular roads and parking areas between buildings must be minimised.
» Garages on the ground floor, which create 'dead' building frontages, are to be avoided.
» Appropriate landscaping measures:
  - The Guidelines for Landscaping provided in the V&A Urban Design Guideline Document must be followed.
  - The Development Control Document addresses human-scaled outdoor spaces and routes, with climatic wind shelter and shade, and opportunities for sitting, particularly along the proposed coastal promenade. These must be implemented via an approved landscape plan as part of the SDP approval for these parcels.
  - Similarly, figures indicate the special treatment of the proposed coastal protection works to ameliorate the visual effect of engineered structures, which can appear visually severe. The engineered straight lines are replaced by way of curved edges, vertical and horizontal undulations, pathways at various levels, landscaping and access to the water's edge with a variety of water activities. These concepts must be implemented.
  - The design must be subject to an approved landscape plan prepared by a professionally registered landscape architect, as part of the SDP submission stage.
  - Street furniture, lighting and signage must be designed as part of an integral system and avoid unnecessary visual clutter in the coastal landscape setting.
  - Rock revetments are visually preferable to 'dolos'.
» Further visual review: Given the current lack of detailed architectural and landscaping information relating to the proposed project, additional visual information should be included at the Site Development stage. These plans must give an indication of architectural concepts and landscape proposals for the development.

*The final comment from HWC (Appendix C2) endorsing the HIA (inclusive of the VIA and AIA) indicated that "**Details of the coastal public open space and access, including the promenade, the public amenities relating to the revetments and bay; and Breakwater Park, and including the related building setbacks, form and massing, must be assessed for each precinct at SDP level for conformity with the indicators, guidelines and controls proposed in this HIA. The necessity for each precinct to be subject to heritage assessment to be reviewed by HOMs (Heritage Officers' Meeting)**." Heritage*

Western Cape is therefore to be consulted at SDP stage for relevant precincts, to confirm whether further heritage assessment is required.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-48: Change in visual character and impact on scenic resources

Criteria	Approved Scheme*	Preferred Alternative	No-Go
Description	**Change in visual character and impact on scenic resources as a result of development, with no development resulting in area being used for temporary activities including material stockpiling**		
Status (Nature)	**Negative**	**Negative**	**Negative**
Extent	**Local – Regional:** From within ZVI	**Local – Regional:** From within ZVI	**Local:** temporary activities and derelict site
Duration	**Permanent**	**Permanent**	**Medium – Long term**
Intensity	**Medium - High**	**Medium - High**	**Medium** - notable alterations
Reversibility	**Non reversible**	**Non reversible**	**Moderate**
Irreplaceability	**Moderate**	**Moderate**	**Low**
Probability	**Definite**	**Definite**	**Highly probable**
Indirect	N/A	N/A	N/A
Cumulative	***Medium,*** *as proposals have incorporated the mitigation measures approved. It is assumed that other developments will be subject to the Development Controls approved for the V&AW precinct, as well as any project specific requirements.*		Not specified
Confidence	**High**	**High**	**High**
Significance before mitigation	**Medium – High, negative**	**Medium – High, negative**	**Medium, negative**
Mitigation/Enhancement Measures	**N/A**	**As specified above**	**N/A**
Significance after mitigation	**Medium, negative**	**Medium, negative**	**Medium, negative**

**Only included where specifically requested by HWC.*

6.4.7 Visual intrusion on Sense of Place

The proposed development of residential buildings in Packages 1 and 2, immediately adjacent to The Water Club, will be close to the Dover building. The proposed buildings have been articulated so as to allow for views past and over. They are lower in height when to the north of Dover and narrower in width to allow for some views. The upper floor Dover apartments will have views over the new proposed buildings and the lower floors should have views between buildings.

The placement of the northern most building in Package 6 may need to be refined so as not to obscure these carefully curated views. The Dover apartments also have views to the east, northeast and southeast. Space has been left between the proposed buildings in these packages such that there will be some unobstructed views and some partially obstructed views. The figure below indicates the proposed arrangement of buildings and heights in relation to The Water Club buildings.



Figure 6-14: Proposed buildings in Packages 1, 2 and 6 showing heights and approximate widths (MALA, 2026).



Figure 6-15: Views from Dover Apartments on upper floors looking north, existing and proposed (MALA, 2026).

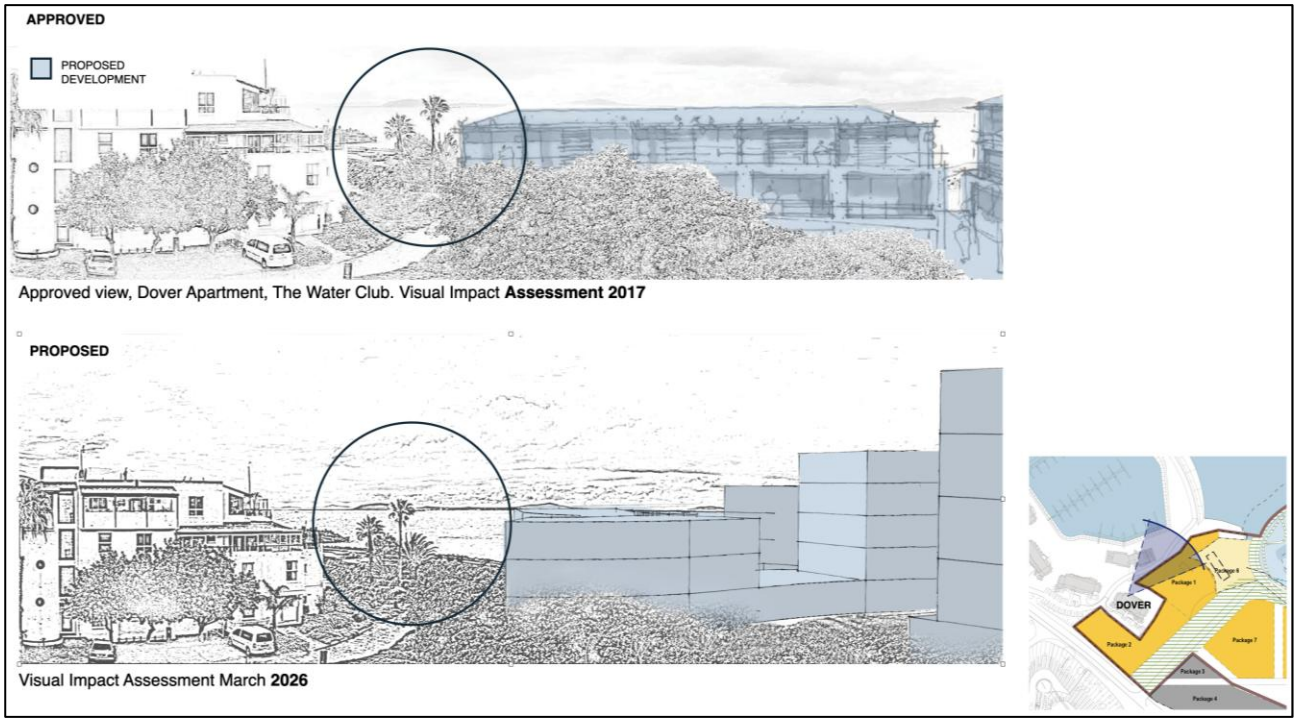


Figure 6-16: Comparative views north from Dover Apartments for the approved 2017 scheme (above) and the proposed 2025 scheme (below), with the latter being more generous (MALA, 2026).

Mitigation Measures

The following mitigation measures are proposed for the heights and massing of the proposal to reduce the visual intrusion of the development:

- **Interface between The Water Club and Packages 1 and 2**: The proposed buildings in Packages 1 and 2, situated north and northeast of The Water Club's Dover Apartment building, should be articulated such that cascading of building and articulation enhances views from Dover where feasible.
- **Table Bay Views down Granger Bay Boulevard to be retained:** The podiums of the building Blocks Y and Z in Packages 13 and 14 should be such that they allow views of Table Bay from Granger Bay Boulevard from where it intersects with Beach Road and northwards. The podiums of Blocks Y and Z will be on reclaimed land, which is currently the coastal view that Granger Bay Boulevard frames. Development here, without appropriate planning for a view corridor/ road within these packages 13 and 14, will result in the loss of the Table Bay view currently visible in the image below. The final level of the breakwater is yet to be determined and may obscure this view to some extent.
- **Building forms and finishes designs finalised:** As no detailed indication of building forms and finishes was available at this stage of the EIA process, the design of these must be subject to approved architectural guidelines and will be incorporated in SDP's submitted to CoCT.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-49: Visual intrusion on Sense of Place

Criteria	Approved Scheme*	Preferred Alternative	No-Go
Description	**Visual intrusion on Sense of Place**		
Status (Nature)	**Negative**	**Negative**	**Neutral**
Extent	**Local:** <2km from the site	**Local:** <2km from the site	**Local:** <2km from the site
Duration	**Permanent**	**Permanent**	**No impact**
Intensity	**High**	**Medium - High**	**Low**
Reversibility	**Irreversible**	**Irreversible**	**High**
Irreplaceability	**High**	**Medium-High**	**Replaceable**
Probability	**Definite**	**Definite**	**Probable**
Indirect	n/a	n/a	n/a
Cumulative	n/a	n/a	n/a
Confidence	**Medium:** Due to the absence of detailed information		**High**
Significance (before mitigation)	**High, negative**	**Medium - High, negative**	**Low**
Mitigation/Enhancement Measures	None specified	• Interface between The Water Club and Packages 1 and 2 must be articulated as detailed above. • Table Bay views down Granger Bay Boulevard to be considered. • Building forms and finishes designs finalized.	n/a
Significance (after mitigation)	**Medium - High, negative**	**Medium, negative**	**Low, negative**

**Only included where specifically requested by HWC.*

6.4.8 Potential effect of lighting related to sense of place

There would be an increase in the amount of lights in the area generated by the lighting of new buildings, streets and outdoor spaces. This will result in additional light pollution.

Mitigation Measures

- Light pollution from outdoor or security lighting must be avoided, and high mast lighting prohibited. *Streetlights must avoid light spillage, and low-level lights must be provided for pedestrian areas.*
- Street furniture, lighting and signage must be designed as part of an integral system and avoid unnecessary visual clutter in the coastal landscape setting.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-50: Potential effect of lighting related to sense of place

Criteria	Approved Scheme*	Preferred Alternative	No-Go
Description	**Light pollution**		
Status (Nature)	**Negative**	**Negative**	**Negative**
Extent	**Local - Regional**	**Local - Regional**	**Local:** <2km from the site
Duration	**Permanent**	**Permanent**	**N/A**
Intensity	**Medium - High**	**Medium - High**	**Low**

Criteria	Approved Scheme*	Preferred Alternative	No-Go
Description	**Light pollution**		
Reversibility	**Low**	**Low**	**High**
Irreplaceability	**Moderate - Low**	**Moderate - Low**	**Replaceable**
Probability	**Definite**	**Definite**	**Probable**
Indirect	n/a	n/a	n/a
Cumulative	**High**	**High**	**Neutral**
Confidence	**Medium:** Due to the absence of detailed information		**High**
Significance (before mitigation)	**Medium**	**Medium**	**Low**
Mitigation/Enhancement Measures	Unspecified	• Light pollution from outdoor or security lighting must be avoided, and high mast lighting prohibited. Street lights must be appropriately positioned and angled to avoid light spillage, and low-level lights provided for pedestrian areas. • Street furniture, lighting and signage must be designed as part of an integral system and avoid unnecessary visual clutter in the coastal landscape setting.	n/a
Significance (after mitigation)	**Low, negative**	**Low, negative**	**Low, negative**

**Only included where specifically requested by HWC.*

6.4.9 Heritage Impacts: Public access to the shoreline

The coastline is an important scenic feature and the proposed 'dolos' revetment could be seen as a visual intrusion. Buildings close to the shoreline could compromise coastal views. Beach Road, which follows the coastline, could be seen as a tourist route, and would probably have reduced visibility of Table Bay. However, it should be noted that the site is at present severely degraded, essentially owing to shore protection measures and extensive temporary spoil dumping.

The current coastline will be extended by the creation of new revetments extending into the sea to create a protected bay. These revetments will be more visible and add to the coastal views, could enhance the scenic resources of the area providing opportunity for a variety of coastal activities open to the public. They will also provide opportunities to view the important landforms of Table Mountain, Devils Peak and Signal Hill.

The Urban Design Guidelines and Granger Bay Development Controls make explicit and considered provision for public access from Beach Road to the shoreline (by way of the 30m corridor and Granger Bay Boulevard, together with other internal streets). The continuity of the coastal corridor is provided for with public access and visual amenity (views of mountain and sea). The guidelines make appropriately sensitive provision for the management of building height, massing and edges in relation to the public realm.

The Preferred Alternative provides for public access and for interactive facades along Beach Road, the Fort Wynyard corridor, the coastal promenade and along Granger Bay Boulevard. Indicative conceptual renderings and information have been provided by the V&AW. In addition to the minimum 9m wide walkway there are other public amenities such as tidal pools and steps down to

the water. The diagrams below illustrate the proposed landscaping and paths between the main promenade and the sea. The landscaping would be designed to provide visual relief.

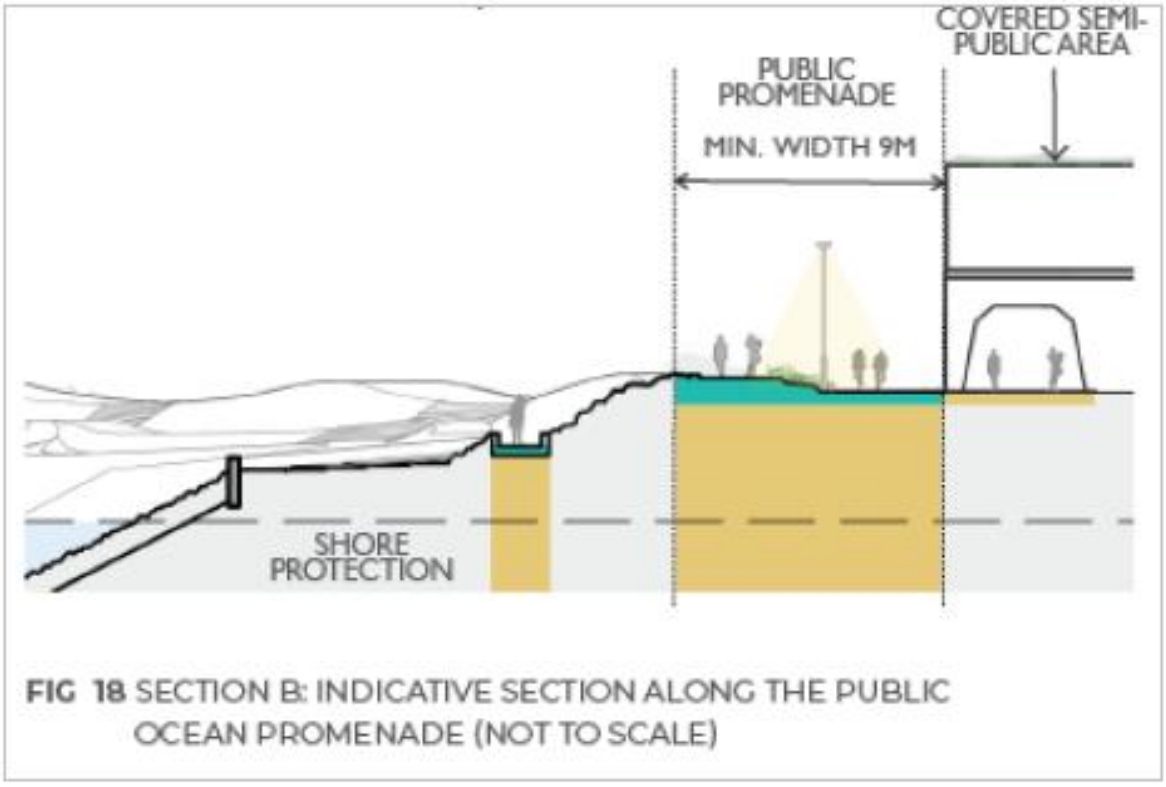


Figure 6-17: Indicative sections of the walkways



Figure 6-18: Indicative illustrations of the proposed landscaping and paths between the main promenade and the sea (HIA, 2026).

Mitigation and Enhancement Measures

- Implement designs as per the Urban Design Guidelines, specifically allowing for the continuous coastal walkway along the shoreline.
- Make appropriately sensitive provision for the management of building height, massing and edges in relation to the public realm.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures.

Table 6-51: Public access to the shoreline

Criteria	Preferred Alternative	No-Go
Description	**Visual, physical or design implied constraints on pedestrian access to coastline**	
Status (Nature)	**Negative,** if not implemented with due consideration for public coastal access	**Negative**: Degraded site and coastal environment
Extent	**Local:** <2km from the site	**Local:** <2km from the site
Duration	**Permanent**	**Temporary - Short-term**
Intensity	**Medium-High**	**Low - Medium**
Reversibility	**High**	**High**
Irreplaceability	**Moderate**	**Replaceable**
Probability	**Low - Moderate**	**Unlikely**
Indirect	n/a	n/a
Cumulative	n/a	n/a
Confidence	**High**	**High**
Significance (before mitigation)	**High, negative**	**Medium, negative**
Mitigation/Enhancement Measures	• Implement designs as per the Urban Design Guidelines, specifically allowing for the continuous coastal walkway along the shoreline. • Make appropriately sensitive provision for the management of building height, massing and edges in relation to the public realm.	None specified
Significance (after mitigation)	**Low - Medium, negative**	**Low, negative**

Should the coastal walkway be designed as presented above, with pedestrian-friendly edges and appropriately massed buildings that are setback to maximise views, it is anticipated that the proposed development will enhance the public access to the shoreline and provide an improvement to the existing public amenities on the site. This impact is therefore rated as high, positive after enhancement measures.

6.4.10 Transport Impacts (Operational phase)

*A Transport Impact Assessment was conducted by Sergei Kiewiet of Motion Consulting Engineers and is attached as **Appendix B9**.*

The key findings of the assessment are as follows:

Existing Land Use Rights

- *The current proposal comprises approximately 78 000 m² GLA and is assessed within that development envelope. At the time of preparing this assessment, the proposal is understood to be capable of being accommodated within the V&A Waterfront's existing approved development rights framework. Where any future development parcel relies on rights / approvals linked to the separate additional-rights process, the relevant and proportionate transport mitigation measures from that approval process would need to be identified and implemented at the appropriate stage, in consultation with the City of Cape Town.*

Traffic Volumes and Road Network

- *Updated traffic information, including the September 2023 V&A parking management data, recent link-volume comparisons and the 2024 ITS study, indicates that background traffic growth has been modest. The ITS study also indicates that peak-hour growth on the main CBD approach routes has largely been constrained by external bottlenecks and reflected through peak spreading rather than significant increases in peak-hour volumes.*
- The *preferred alternative* is projected to generate peak hour vehicle trips similar to, or marginally lower than, the scheme assessed in the 2015 TIA (GIBB). *This is due to the revised land-use mix, removal of office GLA, greater residential component, internal trip potential and the V&A Waterfront's observed mixed-use travel characteristics.*
- No significant changes to the external road network affecting the study area have occurred since the 2015 study. The precinct remains well-served by MyCiTi trunk and feeder routes, and pedestrian and cycle facilities have been maintained or enhanced.

Weekend and Event Traffic

- *The coastal public amenity and recreational components are not expected to be significant weekday commuter peak-hour generators. Weekend peak recreational traffic is expected to be moderated at a network level by lower weekend commuter volumes. Detailed access, parking and operational requirements for specific facilities, including slipway use, should be addressed through the relevant Site Traffic Assessment process at the appropriate stage.*
- *Event-day traffic associated with major stadium events, concerts or similar special events is not representative of typical weekday development traffic and is normally managed through event-specific traffic management plans. It does not form the basis for determining permanent road network upgrades required for the proposed development.*

The following impacts are assessed in the below tables:

- Impact on Traffic Volumes (Table 6-52)
- Impact on Intersection Performance and Capacity (Table 6-53)
- Impact on access safety and local circulation (Table 6-54)
- Impact on non-motorised and PT facility provision (Table 6-55)

Mitigation

No additional mitigation measures are considered necessary beyond those already implemented or previously committed under earlier approvals. Existing access arrangements are broadly compliant with the WCG AMG 2020, and no further signalisation or capacity upgrades are warranted.

Continued monitoring of traffic volumes and parking demand is recommended post-implementation, using the V&A Waterfront's access control and parking management system. This will allow for proactive responses in the event of unforeseen operational issues, although none are currently anticipated.

NMT infrastructure should be retained and enhanced where practical, in support of broader mobility and sustainability objectives.

Should any substantial revisions to the development layout or land use mix occur at a later stage, a review of this assessment should be undertaken to ensure continued alignment with acceptable transport planning parameters.

Key mitigation measures already committed to for the post-construction phase include:

- Granger Bay Boulevard Extension as a dual carriageway
- Internal road geometry to City guidelines (access spacing, aisle widths)
- Cycle/pedestrian network throughout the precinct
- Promote TDM (park-and-ride, rail/bus feeders, micromobility, inclusionary housing incentives)

Additional transport network-related mitigation measures may be applicable in terms of the conditions of the 2025 municipal land use approvals, but only for any portion of the proposed development which does not utilise the pre-existing development rights held by the V&A Waterfront. These measures will be enforced by the City of Cape Town and are not detailed here.

Increased Traffic Volumes

The development will add approximately 830 inbound vehicles in the AM peak and 740 in the PM peak across Beach Road, Granger Bay Boulevard, and Dock Road.

Table 6-52: Increased traffic volumes

Criteria	Preferred Alternative	No-Go
Description	**Increased Traffic Volumes**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Widespread**	No change in baseline conditions
Duration	**Long-term**	
Intensity	**High**	
Reversibility	**Non-reversible**	
Irreplaceability	**N/A**	
Probability	**Definite**	
Indirect	**High negative**	
Cumulative	**Moderate**	
Confidence	**High**	
Significance (before mitigation)	**High, negative**	
Mitigation/Enhancement Measures	• Granger Bay Boulevard Extension as a dual carriageway • Internal road geometry to City guidelines (access spacing, aisle widths) • Cycle/pedestrian network throughout the precinct • Promote TDM (park-and-ride, rail/bus feeders, micromobility, inclusionary housing incentives)	
Significance (after mitigation)	**Low, negative**	**Neutral**

Intersection Performance and Capacity

Increased traffic volumes may decrease intersection capacity and performance.

Table 6-53: Impact on intersection performance and capacity

Criteria	Preferred Alternative	No-Go
Description	**Intersection Performance and Capacity**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change in baseline conditions
Duration	**Long-term**	
Intensity	**High**	
Reversibility	**Non-reversible**	
Irreplaceability	**N/A**	

Criteria	Preferred Alternative	No-Go
Description	**Intersection Performance and Capacity**	
Probability	**Definite**	
Indirect	**Low negative**	
Cumulative	**Moderate**	
Confidence	**High**	
Significance (before mitigation)	**High, negative**	
Mitigation/Enhancement Measures	Cycle lanes; additional stops, walkable environment	
Significance (after mitigation)	**Low, negative**	**Neutral**

Access Safety and Local Circulation

Increased vehicle volumes increase safety risks and may reduce local circulation within the Granger Bay precinct.

Table 6-54: Impact on access safety and local circulation

Criteria	Preferred Alternative	No-Go
Description	**Access Safety and Local Circulation**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change in baseline conditions
Duration	**Long-term**	
Intensity	**Medium**	
Reversibility	**Non-reversible**	
Irreplaceability	**N/A**	
Probability	**Probable**	
Indirect	**Low**	
Cumulative	**Low**	
Confidence	**Medium**	
Significance (before mitigation)	**Medium, negative**	
Mitigation/Enhancement Measures	Minimum stacking (lanes/setback); crossings	
Significance (after mitigation)	**Very low, negative**	**Neutral**

Non-Motorised and Public Transport Facility Provision

Table 6-55: Impact on non-motorised and PT facility provision

Criteria	Preferred Alternative	No-Go
Description	**Impact on non-motorised and PT facility provision**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local**	No change in baseline conditions
Duration	**Long-term**	
Intensity	**Medium**	
Reversibility	**Moderately reversible**	
Irreplaceability	**N/A**	
Probability	**Possible**	
Indirect	**Low**	
Cumulative	**Low**	
Confidence	**Medium**	

Criteria	Preferred Alternative	No-Go
Description	**Impact on non-motorised and PT facility provision**	
Significance (before mitigation)	**Medium, negative**	
Mitigation/Enhancement Measures	**See mitigation measures above**	
Significance (after mitigation)	**Very low, negative**	**Neutral**

The Proposed Development Scheme (2023) is not expected to compromise network functionality when compared to the No-Go scenario. With the recommended mitigation measures, including a contractor-prepared TMP during construction and operational-phase TDM, access management, internal road upgrades, pedestrian / cycling provision and monitoring, residual transport impacts are expected to reduce to acceptable levels.

6.4.11 Socio-economic Impacts during the Post-Construction phase

A Socio-Economic Impact Assessment was conducted by Alex Kempthorne and Mwajuma Kamanzi of Urban-Econ Development Economists (Pty) Ltd to assess the impact of the proposed development on the surrounding socio-economic context and is attached as ***Appendix B2****.*

Production and GDP

This impact is created through the production and consumption multiplier effect. This is given that the biggest effects on economic activity will be through production and GDP, considering that there will be an increase in household spending. These two effects stimulate the economy and increase regional gross domestic product. Therefore, the developer is encouraged to procure materials, goods and products required for the operation of the facility from local suppliers to increase the positive impact on the local and regional economy.

The output from the SAM model suggests that the operational phase of the proposed development will impact total production by approximately R691.8 million and contribute around R322.3 million to GDP annually.

Enhancement Measures

The emphasis should be on increasing local procurement practices in terms of sourcing materials locally, hiring local suppliers and services and promoting the employment of people from local communities, as far as feasible to maximise the benefits to the local economies.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures

Table 6-56: Sustainable positive impact on production and GDP

Criteria	Preferred Alternative	No-Go
Description	**Sustained increase in economic output and GDP from ongoing operational activity**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	
Duration	**Permanent**	

Criteria	Preferred Alternative	No-Go
Description	**Sustained increase in economic output and GDP from ongoing operational activity**	
Intensity	Expenditure associated with the operation of the proposed development will have a positive impact on production. The operational spend on the project will inject business sales/ production for the local and regional economy.	No change to baseline conditions.
Reversibility	**Irreversible**	
Irreplaceability	**Low**	
Probability	**Highly probable:** 50 – 90% chance of occurring	
Indirect	Increased business opportunities will further boost growth in other operations such as deliveries, advertising, and keeping things running smoothly, making the whole area's economy stronger and more diverse	
Cumulative	**Medium High**	
Confidence	**Medium-High**	
Significance (before mitigation / enhancement)	**Medium, positive**	n/a
Mitigation / Enhancement Measures	• The emphasis should be on increasing local procurement practices in terms of sourcing materials locally, hiring local suppliers and services and promoting the employment of people from local communities, as far as feasible to maximise the benefits to the local economies	n/a
Significance (after mitigation / enhancement)	**High, positive**	**Neutral**

Impact on Employment

The operational nature and scale of the proposed development will positively impact the socio-economic environment through the creation of sustainable employment opportunities throughout the operational phase, provided that OPEX levels remain as projected in the SAM modelling. An estimated total of 822 permanent jobs annually will be created through direct, indirect, and induced mechanisms as a result of the proposed development.

- **Low-Skilled and Semi-Skilled Roles (comprising 48%): Positions** such as customer service assistants, security personnel, maintenance support staff, and technicians fall within this category. These roles primarily involve routine or hands-on tasks that require either minimal formal qualifications or practical technical training.
- **Skilled Roles (35%):** These include occupations such as facilities supervisors, administrative clerks, and mid-level management, requiring relevant experience, vocational training, or tertiary qualifications.
- **Highly Skilled Roles (17%):** Positions such as retail and operations management, business administrators, and specialised professionals fall within this category. These roles typically demand formal qualifications, advanced skills, and strategic or decision-making responsibilities.

The diversity in skills levels ensures that the operational phase will support a balanced employment structure, contributing positively to both local employment and skills development. While most roles are expected to be permanent, the specific mix of skills will support long-term economic stability in the area.

Enhancement Measures

- Where feasible, efforts must be made to employ locally to create maximum benefits to communities in terms of increased employment.

- Sub-contract to local construction companies particularly SMMEs and BBBEE compliant enterprises where possible.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures

Table 6-57: Sustainable positive impact on employment

Criteria	Preferred Alternative	No-Go
Description	**Long-term employment opportunities generated by retail, hospitality and operations**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional:** within 30km of the site	No change to baseline conditions.
Duration	**Permanent**	
Intensity	The operation of the project will positively impact on the community and beyond by creating several sustainable job opportunities.	
Reversibility	**Irreversible**	
Irreplaceability	**Low**	
Probability	**Probable**	
Indirect	When employment is consistent, communities experience greater financial security among their members, a decreased need for social safety nets, and enhanced overall stability	
Cumulative	**Medium**	
Confidence	**Medium-High**	
Significance (before mitigation / enhancement)	**Low-medium, positive**	n/a
Mitigation / Enhancement Measures	• Where feasible, efforts must be made to employ locally to create maximum benefits to communities in terms of increased employment. • Sub-contract to local construction companies particularly SMMEs and BBBEE compliant enterprises where possible.	n/a
Significance (after mitigation / enhancement)	**High, positive**	Neutral

Household Income

The operational phase of the proposed development is projected to have a lesser impact on job creation compared to the construction phase. According to the SAM model, it is estimated that the operational phase will contribute approximately R488.4 million in household income.

This income will be sustained through various employment opportunities arising from the different land use components of the development, including:

- Retail: Positions in customer service, sales, store management, logistics, and stock handling.
- Commercial: Office-based roles across a variety of sectors, including professional services, administration, and business support.
- Industrial: Permanent jobs related to warehousing, light manufacturing, distribution, and supply chain support.
- Hospitality: Opportunities in guest services, housekeeping, food and beverage, and hotel management.
- Later Living and Residential Components: Supportive roles in property management, caretaking, cleaning services, and assisted living.

- Cultural and Public Facilities: Jobs in public administration, facility operations, event coordination, and tourism services.
- Maintenance & Security: Ongoing roles in facilities management, groundskeeping, and security services across the development.

The mixed-use nature of the development ensures that job creation will span various skill levels, from entry-level service roles to specialised technical and managerial positions.

Enhancement Measures

- Where possible, the local labour supply should be considered for employment opportunities to increase the positive impact on the local and regional area's economies.
- SMMEs should be approached to investigate the opportunities for supply inputs required for maintenance and operations of the Data centres, warehousing and logistics operations.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures

Table 6-58: Sustainable positive impact on household income

Criteria	Preferred Alternative	No-Go
Description	**Long-term income streams from stable employment**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Permanent**	
Intensity	**Medium:** Employment individuals will increase the income of their respective households and thereby experience an improvement in their standard of living	
Reversibility	**Irreversible**	
Irreplaceability	**Low**	
Probability	**Very likely**	
Indirect	Higher household income supports better nutrition, access to quality healthcare and education, and long-term upward social mobility.	
Cumulative	**High**	
Confidence	**Medium - high**	
Significance (before mitigation / enhancement)	**Medium positive**	n/a
Mitigation / Enhancement Measures	• Where possible, the local labour supply should be considered for employment opportunities to increase the positive impact on the local and regional area's economies. • SMMEs should be approached to investigate the opportunities for supply inputs required for maintenance and operations of the Data centres, warehousing and logistics operations.	n/a
Significance (after mitigation / enhancement)	**Medium-high positive**	**Neutral**

Government Revenue

The operational phase is anticipated to create sustained economic activity and employment opportunities in sectors such as retail management, customer service, maintenance, security, and administrative support. Additionally, the operational phase is expected to contribute to ongoing government revenue through property taxes, licensing fees, and other operational permits. These economic contributions will support the maintenance and expansion of local infrastructure and services, further enhancing the socio-economic fabric of the study area.

Enhancement Measures
None recommended.

Impact Assessment
The following table presents the significance rating of the impact, with and without the implementation of mitigation measures

Table 6-59: Sustainable positive impact on government revenue

Criteria	Preferred Alternative	No-Go
Description	**Sustained increase in government revenue through rates, taxes and permits**	
Status (Nature)	**Positive**	**Neutral**
Extent	**National**	No change to baseline conditions.
Duration	**Permanent**	
Intensity	**Medium**	
Reversibility	**Irreversible:** Benefit sustained over projects lifespan	
Irreplaceability	No irreplaceable loss of resources	
Probability	**Probable**	
Indirect	Increased tax revenue will support the maintenance and expansion of local infrastructure and public services, improving regional socio-economic conditions.	
Cumulative	**Medium**	
Confidence	**Medium - high**	
Significance (before mitigation / enhancement)	**Medium positive**	n/a
Mitigation / Enhancement Measures	• N/A	n/a
Significance (after mitigation / enhancement)	**Medium positive**	Neutral

Traffic Volumes during the Operational Phase
The operational phase of the proposed development is anticipated to result in increased traffic volumes in the surrounding areas, particularly along key access routes such as Granger Bay Boulevard, Beach Road, and the M61 (Helen Suzman Boulevard). This increase will be associated with vehicle trips generated by residents, employees, visitors, and service vehicles linked to the residential, commercial, and recreational components of the mixed-use development.

The Traffic Impact Assessment done by Motion Consulting Engineers (2026) confirms that the anticipated increase in traffic volumes can be accommodated within the existing road network capacity. The development is not expected to result in significant congestion or degradation of overall transport network performance. While a definite increase in traffic volumes will occur, the impact is local in extent, long-term in duration, and low in intensity. In addition, several measures have been incorporated into the development to promote sustainable transport and manage mobility within the precinct. These include:

- **Enhanced Public Transport Integration:** The development's proximity to existing MyCiTi bus routes is expected to encourage the use of public transport, reducing reliance on private vehicles.

- **Promotion of Non-Motorised Transport (NMT):** A 30-metre-wide pedestrian boulevard and additional walkways have been included to support pedestrian and cyclist mobility, enhancing connectivity and promoting sustainable transport options.

From a socio-economic perspective, increased traffic volumes reflect increased economic activity, employment, and utilisation of the precinct. The operational traffic impact is therefore assessed as a low negative impact that remains within acceptable operational limits of the surrounding transport network.

Mitigation Measures

Integration with public transport (MyCiTi), promotion of non-motorised transport infrastructure and ongoing traffic management measures.

Further traffic management measures are proposed in detail in the **EMPr (Appendix D).**

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures

Table 6-60: Sustainable impact on traffic flows along the access routes

Criteria	Preferred Alternative	No-Go
Description	**Increased traffic volumes associated with residential, commercial, and recreational activities within the precinct**	
Status (Nature)	**Negative**	**Neutral**
Extent	**Local:**	No change to baseline conditions.
Duration	**Permanent**	
Intensity	**Low**	
Reversibility	**Irreversible**	
Irreplaceability	**No loss** of irreplaceable resources	
Probability	**Definite**	
Indirect	Increased economic activity, employment and utilisation of the precinct	
Cumulative	**Low**	
Confidence	**Medium**	
Significance (before mitigation / enhancement)	**Low, negative**	
Mitigation / Enhancement Measures	• Integration with public transport (MyCiTi), promotion of non-motorised transport infrastructure and ongoing traffic management measures.	
Significance (after mitigation / enhancement)	**Low, negative**	**Neutral**

Skills Development for the Regional Area

During the operational phase of the proposed development, there will be ongoing opportunities for local skills development through employment across various sectors. These include roles in retail (such as shop assistants, store supervisors, and cashiers), hospitality (such as front-of-house staff, cleaners, and kitchen workers), and facilities management (such as building maintenance, security, and administration). While many of these positions do not require advanced qualifications, they offer valuable entry points into the formal labour market and enable the acquisition of practical, transferable skills.

Opportunities for skill-building include:

- On-the-job training in customer service, sales, stock control, and digital point-of-sale systems
- Front-desk and guest service skills in hospitality and short-term accommodation
- Basic facilities and property management skills for operational staff
- Workplace exposure for students or interns

By facilitating these work experiences, the proposed development can support local workforce readiness and promote career progression within Cape Town's growing urban services economy. These outcomes align with broader efforts to improve employability, particularly for youth and first-time job seekers in surrounding communities.

Enhancement Measures

Where feasible, efforts must be employing the skilled individuals in the local areas first.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation measures

Table 6-61: Sustainable impact on skills development

Criteria	Preferred Alternative	No-Go
Description	**Opportunities for local workforce training and upskilling in urban services**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Permanent**	
Intensity	The proposed development will enhance local employability by providing essential work experience and training in practical skills, thereby increasing the workforce's readiness for various employment opportunities.	
Reversibility	**Irreversible**	
Irreplaceability	**Low**	
Probability	**Highly probable**	
Indirect	Local skills development enhances long-term employability and can reduce intergenerational poverty by improving access to skilled work opportunities.	
Cumulative	**Low**	
Confidence	**Medium - High**	
Significance (before mitigation / enhancement)	**Low positive**	n/a
Mitigation / Enhancement Measures	• Where feasible, efforts must be employing the skilled individuals in the local areas first.	n/a
Significance (after mitigation / enhancement)	**Medium positive**	Neutral

Sustainable impact on sense of place

Prior to mitigation, the operational visual impact is rated as Medium-High, primarily due to the scale and visibility of the proposed built form. Following the implementation of mitigation measures, including adherence to Urban Design Guidelines, height restrictions, structured landscaping plans, view corridor protection, lighting management, and enhancement of the public realm, the VIA concludes that the residual visual impact reduces to Medium. Importantly, the development transforms underutilised and partially derelict land into an active, accessible, and integrated coastal

precinct. It enhances public coastal access, strengthens the urban identity of the Waterfront, improves pedestrian connectivity, and provides high-quality recreational amenities.

From a socio-economic perspective, while the operational phase introduces permanent visual change, it simultaneously enhances the area's amenity value, tourism appeal, and overall sense of place. The long-term outcome is therefore characterised by moderate visual alteration accompanied by substantial place-making and public realm benefits.

Enhancement Measures

- High-quality architectural finishes
- Landscape Development Plan
- Adherence to height limits (21.5m MSL in Arc of Fire)

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-62: Sustainable impact on Sense of Place (Visual)

Criteria	Preferred Alternative	No-Go
Description	**Permanent change to coastal skyline and visual character due to mixed-use buildings and coastal engineering works**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Local**	No change to baseline conditions.
Duration	**Permanent**	
Intensity	**Medium:** Enhanced public realm and improved coastal access	
Reversibility	**Irreversible**	
Irreplaceability	**Low**	
Probability	**Definite**	
Indirect	Strengthened tourism appeal and an improved urban identity	
Cumulative	**Medium**	
Confidence	**Medium**	
Significance (before mitigation / enhancement)	**Medium, positive**	
Mitigation / Enhancement Measures	• Landscape Development Plan • Adherence to height limits (21.5m MSL in Arc of Fire)	
Significance (after mitigation / enhancement)	**Medium – High, positive**	**Neutral**

Public Space and Amenity Value

The proposed development includes the creation of a continuous, 30-metre-wide coastal promenade extending over approximately 750 metres of Granger Bay's shoreline. This public realm intervention aims to improve non-motorised coastal access, supports recreational activity (e.g., walking, cycling, and leisure use), and enhances the overall liveability of the precinct. The promenade links with the existing Sea Point Promenade and V&A Waterfront public spaces, which creates a regional recreational corridor. Additionally, this development also ensures improved access to the coast for local communities, promoting inclusive use of the coastal space.

This therefore provides long-term benefits by improving the area's visual quality, promoting active lifestyles, and attracting both residents and tourists. Increased foot traffic will support surrounding commercial activities, while the integration of outdoor leisure and limited retail along the promenade strengthens the precinct's place-making function. These amenities are particularly valuable in high-density urban environments where open space is limited.

Enhancement Measures

Ensure inclusive access, lighting, safety design, and programming to maximise public benefit.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-63: Sustainable impact on public space and amenity value

Criteria	Preferred Alternative	No-Go
Description	**Improved access to high-quality public spaces and recreational amenities for residents and visitors**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Permanent**	
Intensity	**Medium-high**	
Reversibility	**n/a**	
Irreplaceability	**No loss**	
Probability	**High**	
Indirect	Stimulated tourism and enhanced public spaces promote physical activity	
Cumulative	**Medium**	
Confidence	**Medium**	
Significance (before mitigation / enhancement)	**Medium-High positive**	
Mitigation / Enhancement Measures	• Ensure inclusive access, lighting, safety design, and programming to maximise public benefit	
Significance (after mitigation / enhancement)	**High positive**	**Neutral**

Coastal Heritage and Public Access Value

The development will retain and enhance the slipway facility while improving surrounding coastal infrastructure, ensuring that access for marine users and small-scale fishing activities can continue. Maintaining public and fishing access to this launching facility contributes to the preservation of the area's maritime cultural heritage and supports continued interaction between communities and the coastal environment. In addition to preserving the operational function of the slipway, the proposed development will enhance public access to the water's edge through the creation of safe, accessible and high-quality coastal public spaces. The introduction of promenades, pedestrian pathways, landscaped coastal parks, and accessible open spaces will transform an underutilised and partially inaccessible coastal edge into a publicly accessible recreational destination.

Public access to coastal environments plays an important role in supporting recreation, tourism, and community wellbeing. The improved coastal public realm will create opportunities for walking, boating, swimming and passive recreation while strengthening the relationship between the urban environment and the marine landscape. Overall, the enhancement of coastal access, together with

the retention and continued use of the historic slipway facility, represents a positive long-term socio-economic benefit. These improvements will contribute to the overall amenity value of the Granger Bay precinct while maintaining elements of the area's maritime heritage and strengthening the public interface with the coastline.

Enhancement Measures

Develop safe, well-maintained coastal access infrastructure, including accessible pathways, sufficient lighting, safety measures, and the promotion of public use of open spaces.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-64: Sustainable enhancement of Coastal Heritage and Public Access Value

Criteria	Preferred Alternative	No-Go
Description	**Enhanced coastal public access through the development of coastal infrastructure**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Permanent**	
Intensity	**Medium – High**: The development of promenades, pedestrian walkways, and accessible open spaces will improve integration between the waterfront precinct and surrounding coastal environment.	
Reversibility	**n/a**	
Irreplaceability	**No loss** or irreplaceable resources	
Probability	**High**	
Indirect	Improved coastal accessibility promotes recreation, social interaction, tourism activity, and supports community wellbeing	
Cumulative	**Medium**	
Confidence	**High**	
Significance (before mitigation / enhancement)	**Medium – High, positive**	
Mitigation / Enhancement Measures	• Develop safe, well-maintained coastal access infrastructure, including accessible pathways, sufficient lighting, safety measures, and the promotion of public use of open spaces	
Significance (after mitigation / enhancement)	**High, positive**	**Neutral**

Tourism and the Visitor Economy

As part of one of South Africa's most visited destinations, the proposed mixed-use development at Granger Bay stands to positively influence Cape Town's tourism and visitor economy. By expanding the range of attractions, particularly through the addition of public waterfront space, improved visual aesthetics, enhanced walkability, and increased leisure facilities, the development will further strengthen the V&A Waterfront's role as a leading tourism node.

These additions are likely to extend visitor dwell time and repeat visitation, stimulate local hospitality and retail spending, and increase the area's attractiveness to international and domestic tourists. Indirect benefits may also accrue to Cape Town's brand image as a modern, vibrant, and accessible city, further contributing to economic growth in tourism-linked sectors.

As previously mentioned, in terms of employment opportunities, the development is expected to create jobs across both the construction and operational phases. During the construction phase, the jobs created are primarily temporary, with the majority being semi-skilled and low-skilled positions, such as construction workers, general labourers, and site support roles. A smaller number of highly skilled positions will also be required, including project managers and engineering professionals.

During the operational phase, job opportunities will become more permanent and will include both skilled and unskilled roles. Skilled positions will encompass hospitality management, event coordination, retail management, and property administration, while unskilled roles will likely include cleaning staff, customer service assistants, and support personnel in the tourism and retail sectors. This diverse employment mix ensures that the development supports job creation across skill levels and provides long-term economic benefits to the local workforce.

Enhancement Measures

Integration with Waterfront tourism campaigns, event activation, and heritage trails.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-65: Sustainable impact on tourism and the visitor economy

Criteria	Preferred Alternative	No-Go
Description	**Increased tourism potential and visitor spending in the area**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Long-term**	
Intensity	**Medium-high**	
Reversibility	n/a	
Irreplaceability	**None**	
Probability	**Highly probable**	
Indirect	Improved brand image of Cape Town, increased dwell time, stimulated hospitality sector	
Cumulative	**Medium positive**	
Confidence	**Medium**	
Significance (before mitigation / enhancement)	**Medium-high positive**	n/a
Mitigation / Enhancement Measures	• Integration with Waterfront tourism campaigns, event activation, and heritage trails	n/a
Significance (after mitigation / enhancement)	**High positive**	**Neutral**

Impact on Recreational Boating Activities and Small-Scale Fishing Activities

Granger Bay is an important marine recreation and access point along the Cape Town coastline and is regularly used for activities such as kayaking, stand-up paddleboarding (SUP), sailing, small craft boating, and small-scale fishing. The existing slipway associated with the Oceana Power Boat Club serves as a key launching facility for both recreational boat users and small-scale fishers operating in Table Bay.

The proposed breakwaters and realignment of the revetment are expected to create a more sheltered water body within Granger Bay. Improved shelter conditions may enhance safety for smaller vessels and non-motorised craft, while also supporting safer launching and manoeuvring conditions for small fishing boats that utilise the slipway. These improvements may increase the usability of the bay under a wider range of weather and sea conditions. The proposed development will also introduce new public infrastructure, including pedestrian walkways, public open spaces, and improved connections to the Mouille Point promenade. By linking the Granger Bay area with the well-frequented Sea Point and Mouille Point coastal routes, the development will establish a continuous and accessible coastal corridor. This is expected to increase visitation to the area and strengthen its role as a marine recreation and coastal tourism destination.

Enhancement Measures

- Promote inclusive access to berthing and marine infrastructure
- Enable safe public use

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-66: Sustainable impact on recreational boating and small-scale fishing activities during operations

Criteria	Preferred Alternative	No-Go
Description	**Increased access to marine infrastructure supporting recreational boating, tourism operators and small marine enterprises**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Long-term**	
Intensity	**Medium**	
Reversibility	**Low**	
Irreplaceability	**Low**	
Probability	**Medium-high**	
Indirect	Expanded marine access can stimulate informal economic activity (e.g., water tours, equipment rentals), supporting broader livelihoods.	
Cumulative	**Medium**	
Confidence	**Medium-high**	
Significance (before mitigation / enhancement)	**Medium-high positive**	
Mitigation / Enhancement Measures	• Promote inclusive access to berthing and marine infrastructure • Enable safe public use	
Significance (after mitigation / enhancement)	**High positive**	Neutral

Marine Wildlife-Associated Activities

While marine wildlife-associated activities in the area are largely informal and not dependent on licensed marine mammal tourism, the presence of Heaviside's dolphins, Cape fur seals, and seasonal whale visitors contributes to the experiential and recreational value of the coastal environment.

The Marine Impact Assessment (Appendix B3) indicates that construction-related disturbance may temporarily displace marine mammals, particularly Heaviside's dolphins, from the immediate project area. While marine mammals are highly mobile and are likely to utilise adjacent areas of Table Bay during periods of disturbance, there remains some uncertainty regarding the long-term response of these species to the development. Although a noted by the marine specialist, evidence from similar coastal construction projects suggests that marine mammals often return once disturbance levels decrease, the possibility of partial or complete abandonment of the Granger Bay area cannot be entirely ruled out.

Nevertheless, once construction activities are completed and disturbance levels decline, the operational environment may stabilise and potentially support renewed marine wildlife presence within the broader area. Over the longer term, the combination of improved coastal accessibility, enhanced public spaces, and the potential development of marine habitats associated with artificial structures will contribute positively to the recreational and tourism appeal of the coastal precinct.

Enhancement Measures

Measures include public education signage, responsible wildlife viewing guidelines, and coordination with local operators to minimise disturbance.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-67: Sustainable positive impact on marine wildlife-associated activities

Criteria	Preferred Alternative	No-Go
Description	**Support for long-term wildlife-based marine tourism, particularly kayaking/SUP operators reliant on wildlife sightings**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Permanent**	
Intensity	**Medium:** Sustained attraction of the area for nature-based recreation	
Reversibility	**Low**	
Irreplaceability	**Low**	
Probability	**Medium**	
Indirect	Increased visibility and informal promotion of Granger Bay as a nature-based recreation area, potentially stimulating demand for guided eco-recreation and supporting small-scale tourism enterprises	
Cumulative	**Medium**	
Confidence	**Medium**	
Significance (before mitigation / enhancement)	**Medium positive**	n/a
Mitigation / Enhancement Measures	• Measures include public education signage, responsible wildlife viewing guidelines, and coordination with local operators to minimise disturbance.	n/a
Significance	**Medium-high positive**	**Neutral**

Criteria	Preferred Alternative	No-Go
Description	**Support for long-term wildlife-based marine tourism, particularly kayaking/SUP operators reliant on wildlife sightings**	
(after mitigation / enhancement)		

Socio-economic Impact of Land Reclamation on Local Residents

Once operational, the reclaimed land is expected to support mixed-use development that may include commercial, tourism, and public space elements. This has the potential to generate long-term economic benefits, including direct and indirect employment creation and increased tourism activity. These developments are likely to contribute positively to the local economy, create a range of job opportunities, and stimulate broader economic activity within the surrounding communities.

Importantly, the integration of public amenities and enhanced coastal access within the development presents opportunities for a wider spectrum of users to benefit from the site. These users include local residents, recreational visitors, marine recreation operators, tourism-related businesses, small-scale entrepreneurs, and informal traders who operate within the broader waterfront and coastal tourism economy. Designed and managed with inclusivity in mind, these features will broaden participation in the new economy and reinforce equitable access to coastal space.

Further, the operational phase will sustain various jobs, including:

- Skilled Jobs: Retail managers, hospitality supervisors, maintenance technicians.
- Semi-Skilled Jobs: Customer service representatives, food service assistants.
- Unskilled Jobs: Shop assistants, security personnel, cleaning staff.
- Permanent Jobs: Retail and commercial staff, maintenance and security roles.

These jobs will contribute to long-term employment stability and support inclusive local economic growth.

Enhancement Measures

Prioritise local employment, ensure inclusive coastal access, promote mixed-use development.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-68: Permanent (long-term) positive socio-economic impact of land reclamation on local communities

Criteria	Preferred Alternative	No-Go
Description	**Long-term integration of reclaimed land into the urban surrounding, improving land use efficiency and coastal access**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Permanent**	
Intensity	**Medium**	
Reversibility	**Low**	
Irreplaceability	**Low**	
Probability	**High**	
Indirect	Positive change in surrounding land value	

Criteria	Preferred Alternative	No-Go
Description	**Long-term integration of reclaimed land into the urban surrounding, improving land use efficiency and coastal access**	
Cumulative	**Medium**	
Confidence	**Medium**	
Significance (before mitigation / enhancement)	**Medium-high positive**	n/a
Mitigation / Enhancement Measures	• Prioritise local employment, ensure inclusive coastal access, promote mixed-use development.	n/a
Significance (after mitigation / enhancement)	**High positive**	**Neutral**

Access to the Coastal Area

The proposed development includes high improvements to coastal infrastructure, such as extended pedestrian walkways, new breakwaters with public access, and improved connectivity to the Mouille Point promenade. These enhancements are expected to improve long-term, formalised public access to the coastal zone and support broader social and recreational use of the area.

From a socio-economic standpoint, this development will facilitate inclusive access to the coast, particularly in terms of the design in supporting free pedestrian movement, universal access and public amenities. This supports both leisure use and economic activity, especially for informal traders, local vendors, and small-scale marine operators.

Enhancement Measures

Ensure walkways and access points remain open, universally accessible, and well-maintained as public infrastructure.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-69: Sustainable positive impact on access to the coastal area

Criteria	Preferred Alternative	No-Go
Description	**Enhanced physical and visual access to the coastline, benefiting diverse user groups**	
Status (Nature)	**Positive**	**Neutral**
Extent	**Regional**	No change to baseline conditions.
Duration	**Long-term**	
Intensity	**Medium**	
Reversibility	**Low**	
Irreplaceability	**Low**	
Probability	**High**	
Indirect	Improved inclusion and tourism use	
Cumulative	**Medium**	
Confidence	**Medium - High**	

Criteria	Preferred Alternative	No-Go
Description	**Enhanced physical and visual access to the coastline, benefiting diverse user groups**	
Significance (before mitigation / enhancement)	**Medium-high, positive**	n/a
Mitigation / Enhancement Measures	• Ensure walkways and access points remain open, universally accessible, and well-maintained as public infrastructure	n/a
Significance (after mitigation / enhancement)	**High, positive**	**Neutral**

6.4.12 Climate-change Risks & Impacts

*A Climate Change Impact Assessment was conducted by Philippa Burmeister, Gareth Ian van der Walt, and Joss Cahi of SRK Consulting (2026), included as **Appendix B1**.*

The following **impacts of the proposed development on climate change related risks** are discussed in this section:

- High wind speeds and associated storm surge mitigated by the proposed development (Table 6-70);
- The sea level rise projected, coupled with high wind speeds and erosion rates increase the potential for coastal flooding/erosion that will be mitigated by the proposed development (Table 6-71 and Table 6-72);
- Increased abstraction from freshwater aquifers during the dry period, coupled with the projected increases in sea level, resulting in increased potential for saltwater intrusion (Table 6-73).

The following **climate change related risks to the proposed development** are also discussed in this section:

Reduced water availability during extended dry periods reducing water availability for the development (

- Table 6-74);
- Reduced water availability and increased regional temperatures could result in fires starting offsite and spreading to the proposed development (Table 6-75);
- The projected changes in ocean pH and the average oceanic and ambient temperatures increasing the potential for corrosion (Table 6-76 and Table 6-77).

Impacts of the proposed development on climate change related risks

High wind speeds and associated storm surge mitigated by the proposed development

Since wind speeds are unlikely to change in the medium to long-term future and Granger Bay Development will decrease the shear stresses and wave heights experienced near the shoreline, it is expected that wave-related infrastructure damage (due to wave impacts and erosion) will be mitigated by the development.

Enhancement Measures

None required.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-70: High wind speeds and associated storm surge mitigated by the proposed development

Criteria	Preferred Alternative	No-Go
Description	**The proposed development prevents high wind speeds and associated storm surge in the area damaging established infrastructure.**	
Status (Nature)	**Positive**	**Negative**
Extent	**Site-specific**	**Site-specific**
Duration	**Permanent**	
Intensity	**Medium**	**Medium**
Reversibility	**High**	**High**
Irreplaceability	**Replaceable**	**Replaceable**
Probability	**Highly Probable:** 50 – 90% chance of occurring	**Highly Probable:** 50 – 90% chance of occurring
Indirect	Wave-related infrastructure damage will be mitigated by the development.	Continued infrastructure damage
Cumulative	n/a	n/a
Confidence	**Medium**	**Medium**
Significance (before mitigation)	**Medium, positive**	**Medium, negative**
Mitigation/Enhancement Measures	**None required – positive impact**	**N/A**
Significance (after mitigation)	**Medium, positive**	**Medium, negative**

The sea level rise projected, coupled with high wind speeds and erosion rates increase the potential for coastal flooding/erosion that will be mitigated by the proposed development

The sea level around the coastline is projected to increase by up to 0.3 m in the medium-term and by up to 0.7 m by the end of the century. PRDW's January 2025 Wave Modelling Report (**Appendix G3**) indicates a projected sea level rise of 0.43 m by 2074 and that overtopping would only occur during an extreme storm (a 475-year case). The potential for significant flooding depths against landslide structures therefore remains in the case of extreme storms (Section 2.3.5). The proposed development will, however, address climate change risks since the dolosse proposed have been designed taking current climate change projections up to 2074 into account. The majority of the wave impacts experienced in the development zone will therefore be reduced.

Enhancement Measures

None required.

Impact Assessment

The following tables present the significance rating of the impacts, with and without the implementation of mitigation/enhancement measures

Table 6-71: Proposed development mitigates coastal flooding

Criteria	Preferred Alternative	No-Go
Description	**The proposed development reduces the risk of the projected increase in sea level, coupled with the high wind speeds and shear stresses experienced, increasing the potential for coastal flooding.**	
Status (Nature)	**Positive**	**Negative**
Extent	**Site-specific**	**Site-specific**
Duration	**Permanent**	
Intensity	**High**	**Medium**
Reversibility	**High**	**High**
Irreplaceability	**Replaceable**	**Replaceable**

Criteria	Preferred Alternative	No-Go
Description	**The proposed development reduces the risk of the projected increase in sea level, coupled with the high wind speeds and shear stresses experienced, increasing the potential for coastal flooding.**	
Probability	**Highly Probable:** 50 – 90% chance of occurring	**Highly Probable:** 50 – 90% chance of occurring
Indirect	Wave-related infrastructure damage will be mitigated by the development.	Continued coastal flooding.
Cumulative	n/a	n/a
Confidence	**Medium**	**Medium**
Significance (before mitigation)	**Medium, positive**	**Medium, negative**
Mitigation/Enhancement Measures	**None required – positive impact**	**N/A**
Significance (after mitigation)	**Medium, positive**	**Medium, negative**

Table 6-72: Proposed development mitigates coastal erosion

Criteria	Preferred Alternative	No-Go
Description	**The proposed development reduces the risk of the projected increase in sea level, coupled with the high wind speeds and shear stresses experienced, increasing the potential for coastal erosion.**	
Status (Nature)	**Negative**	**Negative**
Extent	**Site-specific**	**Site-specific**
Duration	**Permanent**	**Permanent**
Intensity	**High**	**High**
Reversibility	**High**	**High**
Irreplaceability	**Replaceable**	**Replaceable**
Probability	**Probable**	**Probable**
Indirect	Wave-related infrastructure damage will be mitigated by the development.	Continued coastal erosion
Cumulative	n/a	n/a
Confidence	**Medium**	**Medium**
Significance (before mitigation)	**Medium, positive**	**Low, negative**
Mitigation/Enhancement Measures	**Ensure the protective barriers (dolosse) proposed are designed to accommodate for the maximum wave heights and sea level rise anticipated.**	**N/A**
Significance (after mitigation)	**Medium, positive**	**Low, negative**

Increased abstraction from freshwater aquifers during the dry period, coupled with the projected increases in sea level, resulting in increased potential for saltwater intrusion

The V&A Waterfront uses water from aquifers to reduce its municipal water demand (borehole water is normally used for irrigation, hard surface cleaning and flushing toilets). Increased drought susceptibility and extended dry periods will result in increased groundwater abstraction to meet regional water demands. Although the proposed development will reduce coastline wave heights and shear stresses, and therefore, wave impact pressure, the sea level rise projected (an increase in the range of 0.2 - 0.7 m) will affect the entire coastline. The hydraulic pressure that will be exerted on the coastline as a result of the projected sea level increases is more likely to influence the extent of saltwater intrusion than the proposed development's abstraction. This impact is therefore considered low, negative prior to mitigation. Rainwater storage and greywater recycling projects will reduce abstraction. Should the proposed development reduce its water demand, it could have a low, positive impact post-mitigation.

Mitigation Measures

Rainwater storage and greywater recycling projects where practical and feasible.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement measures

Table 6-73: Increased potential for groundwater intrusion, and therefore, salinisation.

Criteria	Preferred Alternative	No-Go
Description	**Reduced water availability increasing the use of freshwater from aquifers, coupled with the increases in sea level. This increases the potential for groundwater intrusion, and therefore, salinisation. The development will have minimal impact on this regional impact of climate change.**	
Status (Nature)	**Negative**	**Negative**
Extent	**Site-specific**	**Site-specific**
Duration	**Long-term**	**Long-term**
Intensity	**Low**	**Medium**
Reversibility	**Permanent**	**High**
Irreplaceability	**Moderate**	**Moderate**
Probability	**Probable**	**Probable**
Indirect	Increased groundwater salinization	
Cumulative	n/a	n/a
Confidence	**Medium**	**Medium**
Significance (before mitigation)	**Low, negative**	**Low, negative**
Mitigation/Enhancement Measures	• Rainwater storage for the extended dry period. • Greywater recycling.	**N/A**
Significance (after mitigation)	**Low, positive**	**Low, negative**

Climate change related risks to the proposed development

Reduced water availability during extended dry periods reducing water availability for the development

Increased drought susceptibility and extended dry periods may reduce water availability for the development. Water conservation projects will build resilience for the development by reducing water demand. Should this risk be realised, it may be necessary to consider alternative water sources - A desalination plant already exists and operates within the V&A Waterfront, and this plant could be expanded to accommodate the full development of Granger Bay. Desalination requires significant amounts of energy and imposes its own environmental impacts. The risk, however, is rated low considering it is site specific and short-term. The development also has the financial means to build resilience should the risk be realised and is therefore not considered vulnerable.

Enhancement Measures

- Rainwater storage and greywater recycling projects where practical and feasible.
- Consideration of alternative water sources should this risk be realised.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement

Table 6-74: Risk of reduced water availability

Criteria	Preferred Alternative	No-Go
Description	**Increased drought susceptibility and extended dry periods may reduce water availability for the development.**	
Status (Nature)	**Negative**	**Negative**
Extent	**Site-specific**	**Site-specific**
Duration	**Short-term**	**Long-term**
Intensity	**High**	**High**
Reversibility	**Low**	**High**
Irreplaceability	**Moderate**	**Replaceable**
Probability	**Probable**	**Probable**
Indirect	Increased strain on existing water supply	
Cumulative	n/a	n/a
Confidence	**High**	**Medium**
Significance (before mitigation)	**Low, negative**	**Low, negative**
Mitigation/Enhancement Measures	• Rainwater storage for the extended dry period. • Greywater recycling programmes • Consideration of alternative water sources should this risk be realised.	**N/A**
Significance (after mitigation)	**Low, negative**	**Low, negative**

Reduced water availability and increased regional temperatures could result in fires starting offsite and spreading to the proposed development

The project site is approximately 900 m away from the nearest natural vegetation susceptible to wildfires (Signal Hill). Although fires (and wildfires) can spread through urbanised areas, the V&A Waterfront and proposed development are not considered to be at risk of fires and wildfires – very low significance.

Mitigation Measures

No specific mitigation measures required due to the very low significance of the impact.

Impact Assessment

The following table presents the significance rating of the impact, with and without the implementation of mitigation/enhancement

Table 6-75: Risk of fires spreading to Granger Bay

Criteria	Preferred Alternative	No-Go
Description	**Reduced water availability and increased temperatures in the region may increase the likelihood of fires starting offsite and spreading to Granger Bay, damaging infrastructure.**	
Status (Nature)	**Negative**	None
Extent	**Site-specific**	No change to baseline conditions.
Duration	**Temporary**	
Intensity	**Low**	
Reversibility	**High**	
Irreplaceability	**Replaceable**	
Probability	**Improbable**	
Indirect	n/a	

Criteria	Preferred Alternative	No-Go
Description	**Reduced water availability and increased temperatures in the region may increase the likelihood of fires starting offsite and spreading to Granger Bay, damaging infrastructure.**	
Cumulative	n/a	
Confidence	**Medium**	
Significance (before mitigation)	**Very low, negative**	
Mitigation/Enhancement Measures	Not required due to the low significance of the impact.	
Significance (after mitigation)	**Very low, negative**	**None**

The projected changes in ocean pH and the average oceanic and ambient temperatures increasing the potential for corrosion

The average ambient temperatures and ocean temperature are projected to increase for all SSPs. The ocean is also projected to become slightly more acidic in the medium and long-term. This highlights the potential for increased chemical corrosion of metals submerged in seawater and exposed to the ambient sea air. Since the projected decreases in ocean pH are low, it is unlikely that evaporation will increase the rate of chemical corrosion enough to result in structural faults inland. The materials (metals) used for construction in saltwater environments are also normally treated (anodised) to resist corrosion. This resulted in low significance ratings for the in-water and inland corrosion impacts.

Mitigation Measures

No specific mitigation measures required.

Impact Assessment

The following tables present the significance rating of the impact, with and without the implementation of mitigation/enhancement

Table 6-76: Risk of chemical erosion on submerged infrastructure

Criteria	Preferred Alternative	No-Go
Description	**The reductions in ocean pH and increased sea level and sea temperature, coupled with the high wind speeds already experienced, increasing the potential for, and rate of, physical and chemical corrosion.**	
Status (Nature)	**Negative**	**Negative**
Extent	**Site-specific**	**Site-specific**
Duration	**Permanent**	**Permanent**
Intensity	**Medium**	**Medium**
Reversibility	**Moderate**	**Moderate**
Irreplaceability	**Replaceable**	**Replaceable**
Probability	**Probable**	**Probable**
Indirect	Damage to infrastructure	
Cumulative	n/a	n/a
Confidence	**Medium**	**Medium**
Significance (before mitigation)	**Low, negative**	**Low, negative**
Mitigation/Enhancement Measures	No specific mitigation measures required.	N/A
Significance (after mitigation)	**Low, negative**	**Low, negative**

Table 6-77: Risk of chemical erosion for inland infrastructure

Criteria	Preferred Alternative	No-Go
Description	**The projected increases in mean temperatures and reduced ocean pH increasing the potential for inland chemical corrosion.**	
Status (Nature)	**Negative**	**Negative**
Extent	**Local:** <2km from the site	**Local:** <2km from the site
Duration	**Permanent**	**Long-term**
Intensity	**Low**	**Low**
Reversibility	**Moderate**	**Moderate**
Irreplaceability	**Replaceable**	**Replaceable**
Probability	**Probable**	**Probable**
Indirect	Damage to infrastructure	
Cumulative	n/a	n/a
Confidence	**Medium**	**Medium**
Significance (before mitigation)	**Low, negative**	**Low, negative**
Mitigation/Enhancement Measures	No specific mitigation measures required.	N/A
Significance (after mitigation)	**Low, negative**	**Low, negative**

6.5 Summary of impact assessment

The tables below summarise the impacts, mitigation measures, and assessed impact significances of the proposed development for the Construction Phase (Table 6-78) and Post-construction Phase (Table 6-79).

Table 6-78: Construction Phase Impacts

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
MARINE ECOSYSTEM IMPACTS				
Disturbance of intertidal and subtidal artificial habitat: rocky habitat	**Essential mitigation measures:** • **Limiting the duration of construction activities in the coastal zone; and** • **Constraining the spatial extent of impacts to the minimum required.**	**Very Low Negative**	**Very Low Negative**	**None**
Disturbance of intertidal and subtidal artificial habitat: soft sediment habitats		**Very Low Negative**	**Very Low Negative**	**Neutral**
Impacts of construction on West Coast Rock Lobster	**Essential mitigation measures:** • **Constrain spatial extent of impacts to the minimum required.** Recommended mitigation measures: • Implement phased removal, and potential translocation of individuals from high-density zones.	**Low negative**	**Low negative**	**Neutral**
Disturbance to pelagic open water habitats	**Essential mitigation measures:** • **Limit duration of construction activities in the coastal zone.** • **Constrain spatial extent of impacts to the minimum required.**	**Very Low Negative**	**Very Low Negative**	**Neutral**
Effects of construction waste generation and disposal on marine ecosystems	• Inform and train all staff about sensitive marine species and the responsible disposal of construction waste. This training must be integrated into toolbox talks or onsite awareness sessions to ensure that waste management practices are understood and followed diligently. Additionally, contractors must prepare a method statement outlining specific waste management procedures, which must be approved by the resident engineer before construction activities commence. • Suitable handling and disposal protocols must be clearly explained, and sign boarded. • Reduce, reuse, recycle. • Waste disposal at licensed landfill sites by qualified contractors is mandatory, with proof of disposal submitted to the appointed Environmental Officer. Waste management certification must be obtained, and detailed records of all stored and disposed waste, including quantity, nature, and fate, must be maintained for auditing purposes. • Adequate sanitary facilities and ablutions must be provided for all personnel throughout the project area. Enforcement of facility usage and cleanliness is crucial.	**Medium, negative**	**Very Low, negative**	**None**
Construction related pollution impacts on marine biota	• Minimise sediment release and spread through phased construction • Use turbidity or silt curtains where feasible	**Low, Negative**	**Very Low, Negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	• Careful handling and placement of materials, and stabilisation of reclaimed or disturbed areas to ensure impacts remain localised and temporary. • All fuel and oil must be stored with adequate spill protection • No leaking vehicles should be permitted on site. • Intentional disposal of any substance into the aquatic environment is strictly prohibited, while accidental spillage must be prevented, contained and reported immediately.			
The effect of increased noise and vibration from construction on marine organisms (invertebrates, fish, birds)	• Noise emissions from mobile and fixed equipment should be subject to periodic checks as part of regular maintenance programmes to allow for detection of any unacceptable increases in noise. After mitigation is considered, the impact of noise and vibration on the marine environment is considered insignificant.	**Very low, negative**	**Insignificant, negative**	**None**
Impacts of increased vessel presence on marine mammals	• Vessels used must be driven in a slow and responsible manner, keep gear changes and acceleration to a minimum to minimise rapid changes in noise levels. • A lookout must be kept for dolphins and whales at all times and groups should be avoided where possible. • If any impacts are observed (vessel strike, entanglement, strong avoidance responses) these should be reported to the relevant environmental authority as soon as possible (e.g. DFFE).	**Low, negative**	**Very low, negative**	**None**
Impact of underwater noise on marine mammals	• Before engaging in any rock dumping or similar actions where material is dumped directly into the ocean, ensure that no baleen whales are within ~500 m of the impact site (in the absence of direct measures of sound levels and hearing thresholds, 500 m is widely used as a typical distance for safe avoidance of noise impacts). As far as possible, ensure no dolphins are within 500 m of the impact site. A dedicated marine mammal observer should be used for these phases of work. • Ensure all machinery is in good working order to reduce in in-air noise levels and transmission into the marine environment. • Where rock placement/dumping/construction is planned - aim to work from the ocean space backwards towards shore to create a physical barrier to sound in the initial stages of work, then all other fill work will be effectively 'on land'.	**Low, negative**	**Very low, negative**	**Neutral**
Noise and vibration impacts of the reclamation and in-water marine construction of the western breakwater, slipway and jetty and associated activities.	• *Install and maintain a minimum 3 m high temporary noise barrier along the haul road serving the western breakwater construction area for the duration of works on this breakwater only. The barrier should be positioned as close as reasonably practicable to the haul road and active construction activities to maximise acoustic screening of the neighbouring property.* • *Undertake quarterly environmental noise monitoring during construction of the western breakwater to verify the effectiveness of the proposed mitigation measures, validate the noise model predictions and identify whether any additional practicable mitigation measures are required during construction. Monitoring should be undertaken at representative locations within the Waterclub precinct using the same methodology adopted for the baseline monitoring programme. Where measured noise levels differ materially from the predicted*	**Medium, negative**	**Low, negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	levels, the construction methodology and mitigation measures should be reviewed and, where necessary, additional mitigation implemented. • *Pre-construction dilapidation surveys must be undertaken by the contractor for any existing infrastructure at risk from damage from construction activities, prior to the commencement of construction activities.* • *Avoid unnecessary idling of heavy construction plant and equipment.* • *Where practicable, avoid the simultaneous operation of multiple high-noise construction activities immediately adjacent to the Waterclub* • *Scheduling and working hour controls* • *Equipment and source controls* • *Marine fauna and underwater noise monitoring* • *Communication and stakeholder notification* • *Haul route management* *These mitigation measures will be detailed in the EMPr.*			
Noise and vibration impacts of the reclamation and in-water marine construction of the centre revetment and associated activities.	*General noise mitigation measures stipulated above.*	***Low, negative***	***Very low, negative***	***Neutral***
Noise and vibration impacts of the reclamation and in-water marine construction of the eastern breakwater and associated activities.	*General noise mitigation measures stipulated above.*	***Very low, negative***	***Very low, negative***	***Neutral***
Noise and vibration impacts of general land-side construction	• *Scheduling and working hour controls* • *Equipment and source controls* • *Communication and stakeholder notification* *These mitigation measures will be detailed in the EMPr.*	**Medium, negative**	**Low to medium, negative**	**Neutral**
Dust impacts	• All quarried rock should comply with PRDW's generic rock specification (PRDW 2019) which is based on the Rock Manual (CIRIA et al. 2007) and includes requirements to manage rock cleanliness (absence of soil or quarry dust), reducing the likelihood of dust generation during rock placement. • Dust suppression using a water bowser shall be implemented at all exposed surfaces during dry, windy conditions. • All site vehicles shall observe a speed limit of 20 km/h on site access tracks and internal haul roads to minimise re-suspension of surface fines. • A construction complaints hotline shall be maintained. All dust-related complaints shall be logged, investigated, and responded to within 48 hours. • All haul trucks transporting fill material shall be covered with tarpaulins or tailgate covers before leaving the loading area and throughout transit along the haul route. Uncovered loads are prohibited. • The haul road within the site boundary and Granger Bay Boulevard adjacent to the site shall be swept and/or watered as required during active haulage periods.	**Low to medium negative**	**Low negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	• Stockpiles of fine-grained materials (sand, crusher dust, topsoil) shall be covered with geotextile sheeting when not in active use. Cement shall be stored in sealed silos or closed bulk bags only. The stockpile layout shall be approved by the ECO before site establishment. All active stockpiles exceeding 1 m in height shall be enclosed by wind-break fencing (minimum 1.8 m height, 50% porosity) on the upwind sides. • End-tipping operations shall use controlled drop heights to suppress dust at the point of impact. • Haul vehicles shall be maintained to prevent spillage on public roads. Any spillage on public roads shall be cleared within one hour. Vehicles shall not be overloaded beyond manufacturer specifications. • All concrete demolition and saw-cutting operations shall use wet-cutting techniques (water suppression on cutting blade and drill) to prevent generation of airborne dust. • All skip bins and rubble skips shall be covered when filled. • Workers involved in demolition and concrete cutting shall be provided with appropriate respiratory protective equipment in accordance with the Construction Regulations, 2014. • Construction access tracks and internal haul routes shall be water-suppressed or treated with dust binders to minimise re-suspension of surface fines.			
ARCHAEOLOGICAL IMPACTS				
Damage to, or destruction of archaeological sites and/or artefacts	• Where new development or earthworks which have the potential to reach the depth of the former, historical land surface are undertaken in the areas indicated in Figure 56, the work is archaeologically monitored. • Should pre-colonial archaeological material be encountered, this will need to be archaeologically assessed by a suitably qualified archaeologist. • In the event of the discovery of human remains, work in the affected area must cease immediately, the find must be made secure but left in situ, and HWC and an archaeologist must be informed so that the find can be assessed and arrangements can be made for its mitigation.	**Medium, Negative**	**Low, Negative**	**Neutral**
Impact on maritime archaeology (shipwrecks)	• A geophysical survey of the seabed, (sidescan sonar, multibeam bathymetry and magnetometry), is conducted in the project area prior to any land reclamation activities, to confirm whether there are shipwreck or other heritage sites present. The results of the geophysical survey should be reviewed by a suitably qualified archaeologist. • If a wrecks or wrecks are present in the area SAHRA must be notified immediately, and the site/material must be assessed by a suitably qualified archaeologist, after which a decision can be made about the need for any mitigation measures, which may include site recording, sampling/excavation, and potentially removal and recovery. • Any future excavations within the Granger Bay Land Reclamation precinct through existing landfill, seaward of the historical alignment of the shoreline, to levels that may intersect with the former seabed must be subject to	**High, Negative**	**Low, Negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	archaeological monitoring, with the necessary contingencies in place to allow the mitigation of shipwreck remains, should they be encountered.			
VISUAL IMPACTS				
Visual impacts of construction activities	Standard construction phase mitigation measures include: • Manage stockpile and laydown areas for cleanliness and appearance. • Roof and screen waste areas. • Avoid unnecessary signage or advertisement on site. • Restrict the activities and movement of construction workers and vehicles to the immediate construction site as much as possible; • Ensure that rubble, litter and disused construction materials are managed and removed regularly; • Locate site camps and laydown areas away from visually sensitive receptors such as residences. • Screen site camps and laydown areas with shade cloth or similar, where possible and appropriate.	**Medium - High, Negative**	**Medium, Negative**	**Neutral**
HERITAGE IMPACTS				
Loss of ocean-going user access to the coastline	• Prepare a Construction Traffic and Access Management Plan prior to construction commencement that identifies all phases of work likely to affect slipway access, anticipated duration of any restrictions or closures, and proposed alternative arrangements. • Engage with the slipway operator and relevant local authority before construction commences to agree on acceptable working hours and minimum access requirements that must be maintained throughout construction. • Complete construction, commissioning, and testing of the new slipway to a standard of full equivalent functionality (including launch and retrieval capability, approach, lighting, and associated facilities) and confirm this with a joint inspection before any restriction or closure of the existing slipway is implemented. • Provide advance public notice of any planned slipway closures or restrictions through appropriate channels (signage at the slipway, notice to local boating clubs and harbour users, and municipal or harbour authority communication channels) at least 5 working days before any restriction takes effect. • Minimise the footprint and duration of any construction exclusion zone affecting the slipway approach, launch area, or associated parking and rigging areas; remove temporary obstructions at the end of each working day where practicable. • Ensure construction signage and barriers at the slipway are clearly marked, well-lit, and do not create safety hazards for members of the public navigating around the works area. • Maintain a complaints and grievance register for slipway users and respond to complaints relating to access disruption within 2 working days.	**Medium, negative**	**Low, negative**	**Neutral**
Loss of pedestrian user access to the coastline	• Phase construction activities so that the existing boardwalks and walkways are only closed off when and where needed for construction activities.	**Medium, negative**	**Medium, negative**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	• The coastal public walkway / sea park area should be prioritised for completion as soon as the coastal protection infrastructure is completed.			
TRAFFIC IMPACTS				
Traffic Volumes (Trucks and Staff Cars)	• Off-peak scheduling of heavy-vehicle movements. • Advance public notice of road, lane or shoulder closures, with on-site flagmen, barriers and signage compliant with Southern African Road Traffic Signs Manual (SARTSM). • Site traffic-management plan with qualified marshals. • Early liaison with MyCiTi operations to phase any temporary stop or route restrictions and obtain route deviations. • Wheel-wash bays and routine road-sweeping to prevent debris spillage. • Condition checks of Granger Bay Boulevard and adjacent intersections along well-used haul routes. • Stakeholder notifications and information boards within the Waterfront precinct.	**High, Negative**	**Medium, Negative**	**Neutral**
Pavement Wear and Dust	• Wheel-wash bays and routine road-sweeping to prevent debris spillage. • Condition checks of Granger Bay Boulevard and adjacent intersections along well-used haul routes. See mitigation measures above • Dust suppression measures.	**Medium, Negative**	**Low, Negative**	**Neutral**
Worker and Public Safety	• Advance public notice of road, lane or shoulder closures, with on-site flagmen, barriers and signage compliant with Southern African Road Traffic Signs Manual (SARTSM). • Site traffic-management plan with qualified marshals.	**High, Negative**	**Medium, Negative**	**Neutral**
Temporary Closures and Diversions	• Advance public notice of road, lane or shoulder closures, with on-site flagmen, barriers and signage compliant with Southern African Road Traffic Signs Manual (SARTSM). • Site traffic-management plan with qualified marshals. • Early liaison with MyCiTi operations to phase any temporary stop or route restrictions and obtain route deviations. • Signalled detours • Night works where feasible [KH1.1] and noise restrictions permit	**High, Negative**	**Low, Negative**	**Neutral**
SOCIO-ECONOMIC IMPACTS				
Temporary stimulation of business production and GDP through construction expenditure	• The developer should encourage the contractor to increase the local procurement practices and promote the employment of people from local communities, as far as feasible, to maximise the benefits to the local economies; • The developer should engage with local authorities and business organisations to investigate the possibility of procuring construction materials, goods and products from local suppliers were feasible.	**Medium-High, positive**	**High, positive**	**Neutral**
Short-term employment creation during the construction phase	• Where feasible, efforts should be made to employ locally to create maximum benefits to the communities. • Sub-contract to local construction companies particularly SMMEs and BBBEE complaint enterprises where possible.	**Medium-High, positive**	**High, positive**	**Neutral**
Short-term increase in household earnings due to construction jobs	• Where possible, local labour should be considered for employment to increase the positive impact on the local economy.	**Medium positive**	**Medium-high positive**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	• Employ labour-intensive methods in construction where feasible. • Sub-contract to local construction companies first where possible to do so			
Short-term increase in government revenue through construction-related taxes and fees	• N/A	**Medium positive**	**Medium positive**	**Neutral**
Temporary disruption to local traffic flow due to construction-related activities	• Comply with traffic regulations and management (such as using flag people) to ensure a minimal impact on traffic. • Compliance with traffic management/control measures included in the Environmental Management Programme (EMPr) for the project.	**Medium-high, negative**	**Medium, negative**	**Neutral**
Short-term environmental nuisance from construction activities including dust, noise and air pollution	• Comply with polices regarding noise and dust regulation methods close to and on roads and other existing infrastructure. • Regularly clean and maintain the construction site to prevent the accumulation of dust.	**Medium, negative**	**Low, negative**	**Neutral**
Visual intrusion during construction impacting scenic and recreational value	• Limit construction footprint • Manage site lighting • Implement Construction EMP visual controls (as per VIA recommendations)	**Medium, negative**	**Low, negative**	**Neutral**
Temporary disruption to recreational boating activities during construction due to limited access and safety concerns	• Schedule construction outside peak boating seasons • Maintain temporary access routes and berthing • Communicate construction schedule in advance	**Medium, negative**	**Low, negative**	**Neutral**
Temporary displacement of marine wildlife due to construction noise and vessel activity, potentially affecting kayak/SUP tourism	• Schedule high-noise construction activities (e.g., rock placement and heavy equipment operation) during daylight hours where feasible to reduce prolonged disturbance. • Ensure that construction activities comply with applicable marine environmental legislation, including the National Environmental Management Act (NEMA), the Integrated Coastal Management Act (ICMA), and the Marine Living Resources Act	**Medium negative**	**Low, negative**	**Neutral**
Temporary disruption to economic activity and informal trading during reclamation	• Maintain some access routes. • Maintain temporary access routes where possible. • Engage affected operators early to identify and address disruption concerns.	**Medium negative**	**Low negative**	**Neutral**
CLIMATE CHANGE RISKS				
Extreme weather conditions delay construction	• Not required due to the low significance of the impact.	**Very Low, negative**	**Very Low, negative**	**N/A**
High shear stress impacts delay construction	• Not required due to the low significance of the impact.	**Low, negative**	**Low, negative**	**N/A**

Table 6-79: Post-construction Phase Impacts

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
COASTAL DYNAMIC IMPACTS				
Wave reflections into Table Bay	• Not required due to the low significance of the impact.	**Low, negative**	**Low, negative**	**None**
Longshore sediment transport	• None required due to insignificance.	**Insignificant, negative**	**Insignificant, negative**	**Neutral**
Short-wave reflections towards the Granger Bay Marina	• Not required due to the low significance of the impact.	***Very Low, negative***	***Very Low, negative***	**None**
Long-wave reflections towards the Granger Bay Marina	• *Not required due to the low significance of the impact.*	***Very Low, negative***	**Very Low, negative**	**None**
Short and long wave reflections onto the *main* Granger Bay Marina breakwater	• *Not required due to the low significance of the impact.*	***Insignificant, negative***	***Insignificant, negative***	**None**
Short and long wave reflections onto the lee Granger Bay Marina breakwater	• *Regular monitoring of the condition of the breakwater with rehabilitation when necessary.*	***Very Low, negative***	***Very Low, negative***	**None**
Impacts on Small Craft Operations	• Users made aware of the possible effects that they may encounter, such as appropriate signage near the slipway.	**Very Low, negative**	**Very Low, negative**	**None**
MARINE ECOSYSTEM IMPACTS				
Change in habitat and system function	• The project design must account for potential changes in hydrodynamic function and ensure that resultant local changes in hydrodynamics do not cause significant, ongoing scour of the seabed. • Ensure potential pollution sources (including bilge water and greywater etc.) associated with the development are managed to avoid pollution which may further degrade these habitats.	**Low, negative**	**Very low, negative**	**None**
Loss of rocky shore habitat, introduction of artificial habitat	• No practical mitigation possible	**Low, negative**	**Low, negative**	**None**
Impacts on West Coast Rock Lobster over the long term	• Not required – positive impact.	**Low, positive**	**Low, positive**	**None**
Increased vessel traffic	• Designate speed-restricted areas within Granger Bay to reduce underwater noise and minimise the risk of vessel strikes on marine fauna. • Follow local legislation and international best-practice guidelines for bilge and greywater discharge, with clear signage and training for all harbour users. • Awareness and reporting: Conduct regular environmental awareness campaigns for vessel operators, and implement a system for reporting marine mammal sightings and pollution events.	**Medium, negative**	**Very low, negative**	**None**
Impacts on marine mammals	• Marine mammal monitoring and adaptive management	**Medium, negative**	**Medium, negative**	**Neutral**
VISUAL IMPACTS				
Change in visual character and impact on scenic resources as a result of development, with no development	• The visual intrusion of vehicular roads and parking areas between buildings must be minimised.	**Medium-High, Negative**	**Medium, negative**	**Medium, Negative**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
resulting in area being used for temporary activities including material stockpiling	• Garages on the ground floor, which create 'dead' building frontages, are to be avoided. • Appropriate landscaping measures: » The Guidelines for Landscaping provided in the V&A Urban Design Guideline Document must be followed. » The Development Control Document addresses human-scaled outdoor spaces and routes, with climatic wind shelter and shade, and opportunities for sitting, particularly along the proposed coastal promenade. These must be implemented via an approved landscape plan as part of the SDP approval for these parcels. » Similarly, figures indicate the special treatment of the proposed coastal protection works to ameliorate the visual effect of engineered structures, which can appear visually severe. The engineered straight lines are replaced by way of curved edges, vertical and horizontal undulations, pathways at various levels, landscaping and access to the water's edge with a variety of water activities. These concepts must be implemented. » The design must be subject to an approved landscape plan prepared by a professionally registered landscape architect, as part of the SDP submission stage. » Street furniture, lighting and signage must be designed as part of an integral system and avoid unnecessary visual clutter in the coastal landscape setting. » Rock revetments are visually preferable to 'dolos'. This should be used on visible revetment areas. • Further visual review: Given the current lack of detailed architectural and landscaping information relating to the proposed project, it is essential that further visual reviews of the proposals take place at the Site Development Plan stages. These plans must give an indication of architectural concepts and landscape proposals for the development.			
Visual intrusion on Sense of Place	• Interface between The Water Club and Packages 1 and 2 must be articulated as detailed above. • Table Bay views down Granger Bay Boulevard to be considered. • Building forms and finishes designs finalized.	**Medium - High, negative**	**Medium, negative**	**Low, negative**
Light pollution	• Light pollution from outdoor or security lighting must be avoided, and high mast lighting prohibited. Streetlights must be fitted with reflectors to avoid light spillage, and low-level lights provided for pedestrian areas. The design must be subject to an approved lighting plan by a professional lighting engineer. • Street furniture, lighting and signage must be designed as part of an integral system and avoid unnecessary visual clutter in the coastal landscape setting.	**Medium, negative**	**Low, negative**	**Low, negative**
HERITAGE IMPACTS				
Visual, physical or design implied constraints on pedestrian access to coastline	• Implement designs as per the Urban Design Guidelines, specifically allowing for the continuous coastal walkway along the shoreline.	**High, negative**	**Low – Medium, negative**	**Low, negative**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
	• Make appropriately sensitive provision for the management of building height, massing and edges in relation to the public realm.			
TRANSPORT IMPACTS				
Increased Traffic Volumes	• Granger Bay Boulevard Extension as a dual carriageway • Internal road geometry to City guidelines (access spacing, aisle widths) • Cycle/pedestrian network throughout the precinct • Promote TDM (park-and-ride, rail/bus feeders, micromobility, inclusionary housing incentives)	**High, negative**	**Low, negative**	**Neutral**
Intersection Performance and Capacity	• Cycle lanes; additional stops, walkable environment	**High, negative**	**Low, negative**	**Neutral**
Access Safety and Local Circulation	• Minimum stacking (lanes/setback); crossings	**Medium, negative**	**Very low, negative**	**Neutral**
Impact on non-motorised and PT facility provision	• Granger Bay Boulevard Extension as a dual carriageway • Internal road geometry to City guidelines (access spacing, aisle widths) • Cycle/pedestrian network throughout the precinct • Promote TDM (park-and-ride, rail/bus feeders, micromobility, inclusionary housing incentives)	**Medium, negative**	**Very low, negative**	**Neutral**
SOCIO-ECONOMIC IMPACTS				
Sustained increase in economic output and GDP from ongoing operational activity	• The emphasis should be on increasing local procurement practices in terms of sourcing materials locally, hiring local suppliers and services and promoting the employment of people from local communities, as far as feasible to maximise the benefits to the local economies	**Medium, positive**	**High, positive**	**Neutral**
Long-term employment opportunities generated by retail, hospitality and operations	• Where feasible, efforts must be made to employ locally to create maximum benefits to communities in terms of increased employment. • Sub-contract to local construction companies particularly SMMEs and BBBEE compliant enterprises where possible.	**Low-medium, positive**	**High, positive**	**Neutral**
Long-term income streams from stable employment	• Where possible, the local labour supply should be considered for employment opportunities to increase the positive impact on the local and regional area's economies. • SMMEs should be approached to investigate the opportunities for supply inputs required for maintenance and operations of the Data centres, warehousing and logistics operations.	**Medium positive**	**Medium-high positive**	**Neutral**
Sustained increase in government revenue through rates, taxes and permits	• N/A	**Medium positive**	**Medium positive**	**Neutral**
Increased traffic volumes associated with residential, commercial, and recreational activities within the precinct	• Integration with public transport (MyCiTi), promotion of non-motorised transport infrastructure and ongoing traffic management measures.	**Low, negative**	**Low, negative**	**Neutral**
Opportunities for local workforce training and upskilling in urban services	• Where feasible, efforts must be employing skilled individuals in the local areas first.	**Low positive**	**Medium positive**	**Neutral**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
Permanent change to coastal skyline and visual character due to mixed-use buildings and coastal engineering works	• Landscape Development Plan • Adherence to height limits (21.5m MSL in Arc of Fire)	**Medium, positive**	**Medium – High, positive**	**Neutral**
Improved access to high-quality public spaces and recreational amenities for residents and visitors	• Ensure inclusive access, lighting, safety design, and programming to maximise public benefit.	**Medium-High positive**	**High positive**	**Neutral**
Enhanced coastal public access through the development of coastal infrastructure	• Develop safe, well-maintained coastal access infrastructure, including accessible pathways, sufficient lighting, safety measures, and the promotion of public use of open spaces	**Medium – High, positive**	**High, positive**	**Neutral**
Increased tourism potential and visitor spending in the area	• Improved brand image of Cape Town, increased dwell time, stimulated hospitality sector	**Medium-high positive**	**High positive**	**Neutral**
Increased access to marine infrastructure supporting recreational boating, tourism operators and small marine enterprises	• Promote inclusive access to berthing and marine infrastructure • Enable safe public use	**Medium-high positive**	**High positive**	**Neutral**
Support for long-term wildlife-based marine tourism, particularly kayaking/SUP operators reliant on wildlife sightings	• Measures include public education signage, responsible wildlife viewing guidelines, and coordination with local operators to 314ealized disturbance.	**Medium positive**	**Medium-high positive**	**Neutral**
Long-term integration of reclaimed land into the urban surrounding, improving land use efficiency and coastal access	• Prioritise local employment, ensure inclusive coastal access, promote mixed-use development.	**Medium-high positive**	**High positive**	**Neutral**
Enhanced physical and visual access to the coastline, benefiting diverse user groups	• Ensure walkways and access points remain open, universally accessible, and well-maintained as public infrastructure	**Medium-high, positive**	**High, positive**	**Neutral**
CLIMATE CHANGE RISKS				
The proposed development prevents high wind speeds and associated storm surge in the area damaging established infrastructure.	• None required – positive impact	**Medium, positive**	**Medium, positive**	**Medium, Negative**
The proposed development reduces the risk of the projected increase in sea level, coupled with the high wind speeds and shear stresses experienced, increasing the potential for coastal flooding.	• None required – positive impact	**Medium, positive**	**Medium, positive**	**Medium, Negative**
The proposed development reduces the risk of the projected increase in sea level, coupled with the high wind speeds and shear stresses	• None required – positive impact	**Medium, positive**	**Medium, positive**	**Low, Negative**

IMPACT DESCRIPTION	MITIGATION MEASURES	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
		WITHOUT MITIGATION	WITH MITIGATION	
experienced, increasing the potential for coastal erosion				
Reduced water availability increasing the use of freshwater from aquifers, coupled with the increases in sea level. This increases the potential for groundwater intrusion, and therefore, salinisation. The development will have minimal impact on this regional impact of climate change.	• Rainwater storage for the extended dry period • Greywater recycling programmes.	**Low, negative**	**Low, Positive**	**Low, Negative**
Increased drought susceptibility and extended dry periods may reduce water availability for the development	• Rainwater storage for the extended dry period. • Greywater recycling programmes. • Consideration of alternative water sources should this risk be 315ealized.	**Low, negative**	**Low, negative**	**Low, Negative**
Reduced water availability and increased temperatures in the region may increase the likelihood of fires starting offsite and spreading to Granger Bay, damaging infrastructure	• Not required due to the low significance of the impact.	**Very low, negative**	**Very low, negative**	**None**
The reductions in ocean pH and increased sea level and sea temperature, coupled with the high wind speeds already experienced, increasing the potential for, and rate of, physical and chemical corrosion	• No specific mitigation measures required.	**Low, negative**	**Low, negative**	**Low, Negative**
The projected increases in mean temperatures and reduced ocean pH increasing the potential for inland chemical corrosion	• No specific mitigation measures required.	**Low, negative**	**Low, negative**	**Low, Negative**

CHAPTER 7
PUBLIC PARTICIPATION

July 2026

Amended Environmental Impact Assessment Report

INFINITY ENVIRONMENTAL

7 PUBLIC PARTICIPATION PROCESS

This chapter outlines the Public Participation Process undertaken as per Regulation 41 of the EIA Regulations 2014, as amended. Issues and concerns raised during the scoping process are considered and evaluated in the EIA phase of this application. The ICMA and NEMA processes informed how the public participation process will be implemented for the entire Scoping and EIA process.

7.1 Objectives of Public Participation

Public Participation is a critical informant of environmental assessment. Comprehensive, integrated and thorough application of public participation facilitates and ensures informed decision-making by the competent authority. Guidelines on public participation in terms of the NEMA EIA Regulations (Regulation 41), published by the then Department of Environmental Affairs (now called the Department of Forestry, Fisheries & the Environment) in 2017, note that public participation should allow for the following:

- to provide an opportunity for all role players, including potential and registered interested and affected parties, EAPs, state departments, organs of state, and the competent authority **to obtain clear, accurate and understandable information about the environmental impacts** of the proposed activity or implications of a decision;
- to provide the **opportunity for role-players to suggest** ways for reducing or mitigating any negative impacts of the project and for enhancing its positive impacts;
- to enable the person conducting public participation to **incorporate the needs, preferences and values** of potential and registered interested and affected parties into the proposed development that becomes the subject of an application for an environmental authorisation;
- to provide opportunities for **clearing up misunderstandings** about technical issues, resolving disputes and reconciling conflicting interests;
- to encourage **transparency and accountability** in decision-making;
- to contribute toward maintaining a healthy, vibrant **democracy**; and
- to give effect to the requirement for **procedural fairness** of administrative action as contained in the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000).

7.2 Pre-application Public Participation

The following tasks were undertaken as part of the pre-application public participation from **31 July 2025 to 1 September 2025**:

» On Thursday 31 July 2025, four notice boards advising of the application were placed at the following points:
  - Corner Beach Road and Haul Road
  - Main entrance of the Grand Africa Café & Beach
  - Entrance of the parking area on Granger Bay Boulevard
  - Adjacent entrance 2 at the V&A Waterfront Mall

» The draft pre-application Scoping Report was available for download from the project website at www.infinityenv.co.za/public/grangerbay.

» A hard copy of the Scoping Report was also placed at the Sea Point public library.

» A media notice was published in the *Atlantic Sun* and the *Cape Times*, respectively a local and a regional newspaper, on Thursday 31 July 2025.
- Written notice was given to potential I&APs by email, including owners and occupiers of the site and land adjacent to the site, ward councillors, and others. Where neighbouring properties included sectional title schemes or multiple units, the managing agent or property owners' associations was engaged with and undertook to distribute notifications internally to owners and lessees.
- Organs of state which administer related legislation were provided with an opportunity to comment on the draft pre-application Scoping Report. Each organ of state was notified of the availability of the documents for comment via email.
- A public Open House was held on Wednesday 13 August 2025 between 15:00 and 19:00. Project information was on display, and the project team was available to discuss queries and concerns.

The Pre-application Comments and Responses Report (**Appendix M1**) contains all comments received during the commenting period on the pre-application Scoping Report, and indicates how these have been or will be addressed throughout this process.

7.3 Public Participation: Scoping Phase

7.3.1 Public Participation on the Scoping Report

Public participation during the Scoping phase sought to obtain input from potential key stakeholders identified, adjacent landowners and occupiers, government departments, and members of the public. The Scoping process culminated in a Scoping Report and Plan of Study for the assessment phase, and the pre-application consultation ensured that these comprehensively reflect the inputs and comments of interested and affected parties.

The availability of the Draft Scoping Report and information on the application for environmental authorisation and the opportunity to participate were publicised as follows:

- A 30-day commenting period commenced on Monday **10 November 2025, and ended on Wednesday 10 December 2025.**
- Registered interested and affected parties were notified directly via preferred contact methods.
- Organs of state, including the municipality as well as provincial and national departments, were notified of the availability of the report for comment.
- The Scoping Report was made available for download from the project website at https://www.infinityenv.co.za/public/grangerbay
- Comments and registration requests were accepted via a website form, by email and via WhatsApp.

Proof of the public participation process conducted to date will be provided to the competent authority with the final EIA Report, and responses to comments received in the Scoping Phase are included in the Scoping Comments and Responses Report (**Appendix M2**).

7.3.2 Focus Group Meeting for Ocean Users

Ocean users who use the slipway at the Oceana Power Boat Club and the Granger Bay Ocean Area were invited to a focus group meeting on 16 February 2026 to learn more about the proposals and give input on the functional requirements and use of the new slipway and the new bay by small craft. The professional team presented information on the Scoping and Environmental Impact Assessment process, the conceptual proposals around the use of the coastal infrastructure, and engineering

informants to the design of the bay. The presentation was followed by a Q&A session with attendees. Key issues raised are summarised in Table 7-5.

7.4 Public Participation: EIA Phase

7.4.1 Public Participation on the draft EIA Report

Public participation during the EIA phase sought to obtain input from potential key stakeholders identified, adjacent landowners and occupiers, government departments, and members of the public. The EIA process culminated in an EIA Report and EMPr, and the scoping phase consultation ensured that these comprehensively reflect the inputs and comments of interested and affected parties.

The availability of the Draft EIA Report and information on the application for environmental authorisation and the opportunity to participate were publicised as follows:

- *A 30-day commenting period commenced on **Thursday, 19 March 2026 and ended on Wednesday 22 April 2026**.*
- *On Thursday 19 March 2026, four notice boards advising of the application were placed at the boundaries of the site and in nearby public spaces.*
- *The draft EIA Report is available for download from the project website at https://www.infinityenv.co.za/public/grangerbay*
- *A hard copy of the EIA Report was made available at the Sea Point public library.*
- *A media notice was published in the Atlantic Sun and the Cape Times, respectively a local and a regional newspaper, on Thursday 19 March 2026.*
- *Written notice was given to identified potential I&APs by email, including owners and occupiers of the site and land adjacent to the site, ward councillors, and others. Where neighbouring properties included sectional title schemes or multiple units, the managing agent or property owners' associations was engaged with and undertook to distribute notifications internally to owners and lessees.*
- *A Public Open House was held on Monday, 30 March 2026 between 16:00 and 19:00. Project information was on display, and the project team was available to discuss queries and concerns. Posters were made available on the project website.*

7.4.2 Public Participation on the amended EIA Report

*Following significant new information that was added to the EIA Report, this amended EIA Report is made available for public comment for 30-days from **Thursday, 16 July 2026 to Monday, 17 August 2026.** Registered I&APs will be notified, and all documentation will be made publicly available on the project website at https://www.infinityenv.co.za/public/grangerbay.*

7.5 Consultation with organs of state

As part of the public participation process, organs of state which administer related legislation were provided with an opportunity to comment on the EIA Report. Each organ of state was notified of the availability of the documents for comment via email. Table 7-1 below lists the organs of state that were consulted.

Table 7-1: Organs of state to be consulted

Organ of State	Department	Contact Person
Western Cape Department of Environmental Affairs and Development Planning	Directorate: Development Management	Zaahir Toefy
	Development Management	Eldon van Boom
	Development Management	Keagan-leigh Adriaanse
	Development Management	Kraigen Govindasamy
	Pollution and Chemicals Management	Gunther Frantz
	Waste Management	Lance McBain-Charles
	Coastal Management	Mercia Liddle
	Coastal Management	Iepteshaam Bekko
Department of Forestry, Fisheries, and the Environment	Directorate: IEA	Sabelo Malaza
	Oceans and Coasts	Tabisile Mhlana
	Biodiversity Conservation	P Makitla
	Biodiversity Conservation	S Lekota
SANParks	Table Mountain National Park	Megan Taplin
	Cape Cluster	Monique Sham
	Table Mountain National Park: Marine Protected Area	Ezekiel Kosa
Cape Nature		Ismat Adams
South African Heritage Resources Authority		Consulted via SAHRIS upload
Heritage Western Cape	Emily Vowles	Consulted via s38 NID process
City of Cape Town	Environmental Management Department: Environment & Heritage Management	Maurietta Stewart
Department of Water and Sanitation		Nelisa Ndobeni
Transnet National Ports Authority	Infrastructure Management	Erlene Oliver
Robben Island Museum	Chairperson	Sabelo Madlala
Department of Defence	Fort Wynyard	Z.D Swandle and Kevin Ashton
WCG Department of Health	Head of Department	Keith Cloete
WCG Department of Infrastructure	Head of Department	Adv. Chantal Smith

7.6 Summary of issues raised to date during public participation

The amended EIA is informed by comments and queries received during public participation on the draft EIA Report and the draft Scoping Report (DSR), which was made available for multiple review and comment periods as described above.

Compilation of the written submissions received is described below:

Table 7-2: Summary of engagement documentation

Period	*Phase / Engagement*	*Appendix*	*Summary*
31 July 2025 – 1 September 2025	*Pre-application Scoping*	*M1*	*Table 7-3*
10 November 2025 – 10 December 2025	*Draft Scoping Report*	*M2*	*Table 7-4*
16 February 2026	*Focus Meeting with Ocean Users*	*M3*	*Table 7-5*
19 March 2026 – 22 April 2026	***Draft EIA Report***	***M4***	***Table 7-6***

Written submissions received during the commenting period on the amended EIA Report will be added to this section.

Table 7-3. Issues raised by I&APs and Organs of State during the first comment period (July to September 2025)

Issue	Summary of Concerns Raised	Response Summary
Environmental Impacts	Concerns about marine biodiversity, pollution, sedimentation, kelp wrack, and impacts on marine mammals and seabirds.	This issues have been addressed in the Marine Impact Assessment (included as **Appendix B3**) the Oceanographic Study (**Appendix B5**), and this EIA Report. The Environmental Management Programme (included as **Appendix D**) provides for monitoring programmes and mitigation measures.
Coastal Erosion and Hydrodynamics	Potential erosion of Milnerton shoreline due to breakwaters and land reclamation; comparisons to Ben Schoeman Dock; adequacy of modelling.	Wave and hydrodynamic modelling (included as **Appendix G2**) found that no impact is expected beyond 500m from the site and that longshore sediment transport would not be affected.
Public Access and Equity	Concerns about maintaining public access to coastline, slipway, and facilities; equitable access for vulnerable groups.	The public slipway will be reconstructed in a new location. Coastal walkway and promenade will be publicly accessible. Operational arrangements to ensure accessibility will be considered based on the engagements held with ocean users to date (meeting notes included as **Appendix M3**).
Heritage and Visual Impacts	Impacts on Water Club residents, heritage sites, and visual character of the area.	Impacts are considered and assessed in the Heritage and Visual Impact Assessments (included as **Appendix B6 and B8**) and will be the subject of direct engagement by the applicant with affected landowners.
Traffic and Transport	Overburdened road infrastructure, especially during events; need for traffic impact analysis.	A Transport Impact Assessment (TIA) is included as **Appendix B9** and summarised in chapter 6. Event traffic is managed by the City of Cape Town. Quarry material transport impacts are included in the TIA.
Sewage and Water Quality	Concerns about sewage; need for on-site treatment and water quality monitoring.	The City of Cape Town has confirmed sufficient capacity at the Green Point outfall, but the Waterfront also plans for an onsite treatment plant in future (not part of this application). Water quality monitoring provided for in the

Issue	Summary of Concerns Raised	Response Summary
		EMPr (Appendix D) aligns with national guidelines.
Land Use, Zoning, and Ownership	Questions about zoning of reclaimed land, integration into cadastral system, and public ownership of Coastal Public Property.	Reclaimed land will be surveyed and registered. Ownership of coastal public property remains with the State; leasehold agreements will be negotiated if required. Rezoning will follow City processes.
Socio-Economic and SME Opportunities	Requests for kiosk space, sailing centre, and SME inclusion; concerns about property value impacts.	Forwarded to applicant for consideration. Socio-Economic Impact Assessment (included as **Appendix B2**) assess all socioeconomic impacts. Mixed-use development will include SME opportunities.
Planning Alignment and Policy Compliance	Compatibility with MSDF, Table Bay District Plan, and City's spatial strategies.	Development aligns with spatial planning policies and is supported by relevant City departments.
Stormwater and Infrastructure Capacity	Need for litter traps, sediment control, and confirmation of service capacity.	Stormwater management and monitoring are included in EMPr. City has confirmed sufficient capacity for water, sewage, and electricity.
Public Participation Process	Requests for extended comment periods and transparency.	EAP confirmed willingness to extend comment period and noted future participation opportunities.

Table 7-4. Issues raised by I&APs and Organs of State during the second comment period (November to December 2025)

Issue	Summary of Concerns Raised	Response Summary
Material Requirements	Requests for details of quantity of fill, sources and haul routes.	Confirmation that approximately 350,000 tons of rock are expected to be required and would be sourced from commercial quarries supplemented where possible with excavated material stored on the site and from other nearby developments.
Socio-Economic Motivation	Supportive comments noting economic benefits of expanded V&A Waterfront.	Acknowledged and noted as outside EIA scope but relevant to need & desirability.
Traffic & Transport	Concerns about existing congestion and risk of worsening gridlock; need for upgrades.	Impacts have been assessed in the Transport Impact Assessment as detailed in Chapter 5 and **Appendix B9.**
Coastal Processes & Impacts on Milnerton / Woodbridge	Repeated earlier concerns: erosion risk, modelling limitations, long-wave effects, comparison to Ben Schoeman Dock.	Modelling shows no material effects beyond 300-500 m from the site; Milnerton is ~6 km away, and no erosion impacts are predicted.
Modelling Gaps: Long-Period Waves Extreme Events, Temporal Coverage	Claims that the modelling window was too short, that long-period waves were ignored and that extreme episodic events were not captured.	Specialist confirmed both long and short waves were modelled and that extreme storm conditions were used; specialists satisfied with assumptions.

Issue	Summary of Concerns Raised	Response Summary
Sediment Transport & Bathymetry (Waterclub)	Missing marina bathymetry; concerns about re-silting, dredging costs, sediment influx during construction; possible reduced flushing; request for detailed sedimentation projections.	PRDW modelling included the 2022 bathymetry & historic dredging records. The Waterclub is already a mud accumulation zone, but the proposed development is not expected to result in additional mud accumulation or dredging volume, as shown in **Appendix G2**. Construction-phase sediment impacts are assessed in Chapter 5 and management measures are provided in the EMPr (**Appendix D).**
Marine Biodiversity	Concerns over habitat loss, noise, megafauna disruption, and possible harmful algal bloom formation.	Addressed in the Marine Impact Assessment and Marine Mammal Assessment (**Appendix B3 and B4**). Modelling (**Appendix F**) shows flushing is adequate. Water quality monitoring and mammal monitoring and mitigation measures are specified in the EMPr (**Appendix D**).
Cape Kelp Forest Impacts	Marine report insufficiently addresses kelp forest loss from reclamation.	The marine impact assessment has been revised to more specifically consider impacts on all marine ecosystems affected (**Appendix B3**).
Water Quality	Confirmation of sewage capacity required, and request for on-site treatment.	Confirmation of available capacity in the sewerage system is included in as **Appendix H**.
Water Quality: Bi-weekly monitoring + internal precinct monitoring	City requests more frequent water quality testing and specification of interventions for pollution events.	Monitoring of water quality will be in line with national guidelines and as set out in the EMPr (**Appendix D**) which specifies parameters and frequencies. Responses to pollution events will be the subject of an operational-phase protocol.
Public Access & Equity	Importance of slipway access; need equitable access for vulnerable groups.	A new public slipway will be reconstructed in the new bay; the proposed promenade and walkways will remain publicly accessible; operational arrangements will consider accessibility.
Slipway Design, Surge Conditions, Parking Layout, Operational Management	Requests for dimensions, details of modelled surge conditions, trailer parking location/size, operator arrangements.	The new slipway has better alignment to wave direction, with an estimated 5% downtime due to wave conditions. Further design details of the proposed slipway and associated facilities are included in Chapter 2 of this report.
Heritage & Visual	Requests from I&APs and City for clarity on building heights, view arcs, buffers.	Building heights, view arcs and other visual impacts are addressed in the VIA & HIA (Appendix B8 and B6) and in Chapter 5 of this report.
Cadastral Boundaries, Development Rights on Reclaimed Land	CCT requests confirmation that reclaimed land has no current rights and clarity on future rezoning/precinct planning.	The bulk rights for the reclaimed portion have not yet been established as the land is not yet established and has no zoning. For the reclaimed portion of land, a small portion of existing rights has been reserved for that land when and if it eventuates. The process will require subsequent land-use applications.

Issue	Summary of Concerns Raised	Response Summary
Affordable Housing on Reclaimed Land	CCT requests 10% inclusionary housing.	All newly reclaimed land will be the subject of a future land use management application process in which details of the proposed land use mix will be provided to the municipality. The land use mix will take into account the existing Waterfront property where there is provision for affordable housing.
Stormwater & Infrastructure	Need for litter traps, sediment control, infrastructure capacity.	The EMPr (**Appendix D**) and stormwater management plan (**Appendix J**) provide for stormwater controls. The City has confirmed (**Appendix H**) that water/sewage/electricity capacity are adequate.
Waste Management	City Solid Waste: no objection but sets formal conditions for refuse room, access, hazardous waste, etc.	Conditions noted for incorporation at design stage.
Environmental Health	Dust management and air-quality permitting for fuel-burning equipment.	Dust management measures are included in the EMPr (**Appendix D**).
Climate Change	Need for sea-level rise, surge, erosion, sediment transport, water-saving and energy-efficiency measures.	A Climate Change Impact Assessment (**Appendix B1**) has been conducted and is included in the impact assessment in Chapter 5. Efficiency measures are included in section 2.4.6 of the EIA Report.
Regulatory Requirements: ICMA Sections 7A, 7C	Need robust justification for reclamation, alternatives comparison, CPP objectives, mitigation, additional permits.	Details of ICMA compliance are included in Chapter 4 of the EIA Report.
Public Participation	I&APs request continued involvement; questions about notification adequacy.	All I&APs are invited to register and further notifications have been undertaken as part of the EIA process.

Table 7-5. Issues raised by stakeholders during the Ocean Users Focus Group Meeting (16 February 2026)

Issue	Summary of Concerns Raised	Response Summary
Management of the new bay area	Management of activities within the new bay area as well as the proposed new slipway.	This will be determined at a later stage in consultation with relevant authorities such as the TNPA. The proposed slipway is expected to be managed on a similar basis to the existing Operational Management Plan.
Vessel exclusion	Certain boat sizes will not be able to operate inside the new bay.	The maximum length of powered boat the proposed quay temporary mooring will accommodate is 20 m.
Water quality	Water quality concerns; public safety risk; sufficient flushing of circulation within the bay.	Water quality monitoring is included in the EMPr.
Climate Change	Consideration of sea-level rise, surge, erosion.	Climate Change Impact Assessment has been completed and included in this EIA (**Appendix B1**). Sea-level rise estimations are included in PRDW Wave Modelling Report (**Appendix G3**) and Climate Change Impact Assessment (**Appendix B1**).

Issue	Summary of Concerns Raised	Response Summary
Noise	Activities within the new bay would be a nuisance to surrounding residential areas.	Noise management is included in the EMPr (**Appendix D**).
Recreational activities	Concern regarding surfing at the Thermopylae; impacts on paddlers and dolphins within the area.	Confirmed no impact on the Thermopylae break or 500m beyond the development; paddlers will be accommodated within the bay; a Marine Mammal Monitoring Plan is included in the EMPr (**Appendix D**).
Wave dynamics	Concerns around wave heights and sediment transport and accumulation, particularly in the Waterclub Marina.	Wave heights are generally reduced; no significant change to sediment transport or mud accumulation in the Waterclub Marina.
Public Participation	Questions about notification adequacy; access to specialist studies.	All I&APs are invited to register and further notifications have been distributed as part of the EIA process.

Table 7-6. Issues raised by I&APs and Organs of State during the third comment period (March to April 2026)

Issue	Summary of Concerns Raised	Response Summary
Arc of Fire	*Requested explicit confirmation that these views have been protected.*	*The HIA and VIA assess this and required height restrictions are met and incorporated into design.*
Continuity for Marine Livelihoods and Activities	*Concerns around users and businesses operating from the existing OPBC, and if provision will be made for these existing marine tourism operators.*	*Confirmed that the slipway will be operational throughout construction and that provision has been made at ground level for marine operators. Management arrangements for the new slipway have not been fnalised at this time.*
Timing of implementation	*Questions regarding timeframes for the commencement of construction.*	*Construction timelines cannot be confirmed at this stage, but the EIA process is anticipated to be completed by January 2027. Further approvals are also required, such as the Minister's approval in terms of ICMA, and LUMS applications for the new land.*
Assessment of Marine Ecology Impacts	*Concerns around the assessment of impacts on sensitive marine species, as well as MPAs and ESAs.*	*Impact assessment methodology was elaborated by the marine specialists.*
Marine Construction Monitoring	*SANParks expressed concern that the Mammal Monitoring Protocol included in the EMPr is insufficient in detail.*	*The level of detail requested is not available at this time, and the protocol has been designed so that it can be adjusted as required.*
Longshore Sediment Transport	*Questions regarding the sufficiency of responses provided previously to concerns of changes to longshore sediment dynamics*	*Assumptions made in the longshore transport explanation have been explicitly elaborated on the make the reasoning clearer.*
Impact on Waterclub Views	*Currently certain residential units have sea views, which may be*	*Additional 3D renderings have been provided by the applicant and included in the updated VIA Report (Appendix B8). Impacts to views are*

Issue	Summary of Concerns Raised	Response Summary
	disrupted by certain development parcels.	*not significantly different from impacts assessed in the approved 2018 scheme.*
Traffic	*Concerns raised around event and weekend traffic; methodology used for the TIA; haul routes on the site during construction phase*	*The TIA has been updated to address these concerns (B9). Additional data has been sourced from an ITS 2024 study which confirms no significant background traffic growth. Weekend recreational traffic is expected to be different in pattern and timing, rather than more onerous than the weekday commuter peak-hour condition. Rock placement locations have been tested to determine the required vehicle sizing.*
Noise Levels for Construction and Operations	*Waterclub residents raised concerns over the fact that noise generating construction activities likely to be very close to the property boundary and cause significant noise disruption; proposed recreational and commercial uses could increase night time noise.*	*A noise impact assessment was conducted, including monitoring of ambient noise to prepare a baseline, and detailed modelling of noise generation associated with the in-water and marine construction activities to determine the anticipated noise exposure of adjacent residences. Mitigation measures have been specified and incorporated in the EMPr. Refer to Appendix B10 and section 6.3.9 of this report.*
Modelling Gaps: Long-Period Waves Extreme Events, Temporal Coverage	*Similar concerns raised previously: claims that the modelling window was too short, that long-period waves were ignored and that extreme episodic events were not captured.*	*The PRDW Wave Modelling Report has been updated (G2). This includes a sensitivity test that confirms the simulation period sufficient to capture long wave effects; and impacts on the existing Waterclub breakwaters in extreme scenarios – which has confirmed no significant impacts on the Waterclub Marina and existing breakwaters from the development.*
Sustainable Design Considerations	*Breakwater walls should consider engineering features that promote marine life.*	*This is addressed in the PRDW Function Requirements Report (Appendix G1) and has been explicitly included in the updated EMPr (Appendix D).*
Exceptional Circumstances for Land Reclamation	*View that the proposal does not constitute exceptional circumstances as required by ICMA; setting a precedent for privatization of public coastal land.*	*Commentors have been referred to the relevant section of the EIA report discussing ICMA requirements (Section 8.3.7). The adequacy of the reasoning provided will be up to the Minister to decide.*
Water Quality: Bi weekly monitoring + internal precinct monitoring	*City repeated requests for more frequent water quality testing and specification of interventions for pollution events.*	*Monitoring of water quality will be in line with national guidelines and as set out in the EMPr (Appendix D) which specifies parameters and frequencies. Responses to pollution events will be the subject of an operational-phase protocol, now included with the EMPr.*

The initial register of identified and registered Interested and Affected Parties will continue to be updated as the process proceeds. I&APs may register their interest at any time during the process.

7.7 Public Participation on the *amended* EIA Report and EMPr

The *amended* EIA Report (including the EMPr) is made available for a 30-day comment period, via the project website. The *amended* EIA Report and EMPr have been submitted to state departments for comment in terms of section 24O of NEMA.

All registered I&APs on the project database have been notified in writing of the release of the *amended* EIA Report for review and comment, *which is available on the project website at* https://www.infinityenv.co.za/public/grangerbay.

Interested and affected parties are encouraged to comment using any of the methods provided below, by no later than ***Monday, 17 August 2026*.**

Online at **www.infinityenv.co.za/public/grangerbay**

By email to **grangerbay@infinityenv.co.za**

By WhatsApp message to **060 524 7676**

For more information, to comment, or to arrange alternative ways of participating, Infinity Environmental can be contacted at the details above.

Comments raised, through written correspondence (emails, comments, forms) and at meetings (public open day and/or focus group meetings) will be responded to by the EAP in the form of a Comments and Responses Report to be submitted together with the final EIA Report and EMPr to the competent authority for decision-making.

7.8 Processing of Personal Information

Infinity Environmental is required by the EIA Regulations, GNR 326 of 2017 and the National Environmental Management Act to maintain a register of interested and affected parties, including people who have commented, attended meetings, or requested registration. This requires us to collect and process certain personal information as defined in the Protection of Personal Information Act, 2013. The following personal information will be collected, with the required consent, for the purpose of public participation from registered I&APs and will be collected from anyone who comments or registers:

- Name, contact details and address.
- A copy of any comments submitted; and
- Details of any interest declared in the granting or refusal of the application.

The name and comments of each Interested and Affected Party who registered and/or who will comment shall be provided to the competent authority. Interested and Affected Parties were informed that, should they register and/or comment, their name and contact details are provided to the competent authority and the applicant. Personal information will be stored by Infinity Environmental (Pty) Ltd at 2 Fir Street, Observatory 7925, and on a cloud storage system which may include servers outside the Republic of South Africa, and may also be provided to the Applicant, V&A Waterfront, for use in future participation or engagement processes related to this project. Interested and Affected Parties may, at any time, request access to or rectify this personal information by contacting us at info@infinityenv.co.za.

Visit https://www.infinityenv.co.za/legal to view our Privacy Policy

CHAPTER 8

ENVIRONMENTAL IMPACT STATEMENT AND RECOMMENDATIONS

July 2026

Amended Environmental Impact Assessment Report

INFINITY ENVIRONMENTAL

8 ENVIRONMENTAL IMPACT STATEMENT & RECOMMENDATIONS

This section presents the conclusions and recommendations from the EIA process, the key findings of specialist impact assessments, and a summary of impacts to enable decision making by the competent authority (DEADP). Mitigation and management actions required to mitigate negative impacts or enhance positive impacts are provided, along with the EAP's recommendation as to whether the project should receive environmental authorisation.

8.1 Project Site

The Granger Bay Precinct lies east of Beach Road and north of Granger Bay Boulevard. The coordinates of the site are provided below (Table 3-1). The proposed site includes a portion of Erf 173712 seawards of the 100m setback from the highwater mark, a portion of Erf 177853 (undeveloped land between Erf 173712 and the highwater mark), and land to be reclaimed from the sea below the highwater mark (Figure 3-1 and Table 3-2). The site, inclusive of the proposed reclaimed land and the proposed new bay, is approximately 107 550 m^2 in extent.

This site is located within the V&A Waterfront, a popular recreational urban area and tourist destination located southeast of Mouille Point and adjacent to Fort Wynyard. The proposed site is bordered by Beach Road to the southwest, Granger Bay Boulevard to the southeast and Haul Road to the northeast. The proposed site is located approximately 21km from the Cape Town International Airport and approximately 4km from the Cape Town Central Business District (CBD).

Table 8-1: Site Coordinates

Location boundary	Latitude	Longitude
North	33°54'1.08"S	18°25'4.15"E
South	33°54'10.29"S	18°25'1.17"E
East	33°54'4.33"S	18°25'15.49"E
West	33°54'6.28"S	18°24'49.51"E

Table 8-2: Property details

Property number	Surveyor-General code	Extent
173712	C01600070017371200000	64832.27 m^2
177853	C01600070017785300000	9075.35 m^2

8.2 Project Description

The proposed development incorporates the reclamation of approximately 3.8 hectares of land (as measured from the current highwater mark) from Table Bay to accommodate new coastal public amenities and new mixed-use development. This reclamation will be protected by a new permanent rock revetment and two ('east' and 'west') breakwaters forming a new protected bay approximately 3 hectares in extent. The west breakwater will extend approximately 90 metres into Table Bay, and the east breakwater approximately 140 metres. A revetment connecting the two breakwaters will be approximately 540 metres long. No development will occur in the new bay formed by the breakwaters and revetment. The proposed revetment and breakwaters will be constructed in phases over approximately 3 years.

New mixed-use development is proposed on the portion of the site currently located within 100 metres of the highwater mark, which will accommodate residential, hotel, leisure, and commercial

uses, with residential accommodation options such as hotels, serviced apartments, and private apartments. The orientation and massing of buildings will respond to the coastal setting and maximise outward views of the ocean. Approximately 78 000 m^2 of bulk will be allocated from the existing development rights permitted within the V&A Waterfront. Development rights are already in place for a portion of the Granger Bay precinct not included in this Scoping and EIA (shown in grey in Figure 8-1).

New public amenities will include the new bay, providing sheltered waters for boating, kayaking, and swimming. Land-based amenities will include a coastal public walkway, a slipway, a fixed quayside, a landscaped promenade, tidal pools, pedestrian paths, and open areas. Access to the coastline is a key principle of the development, as envisaged in the Integrated Coastal Management Act. The development plans include a new coastal public walkway and a landscaped promenade, which allow for an uninterrupted coastal boardwalk from the V&A Waterfront through Granger Bay to connect via Beach Road with the Sea Point Promenade. This will be accessible to the public in the same way that the other public areas in the Waterfront are open to the public.

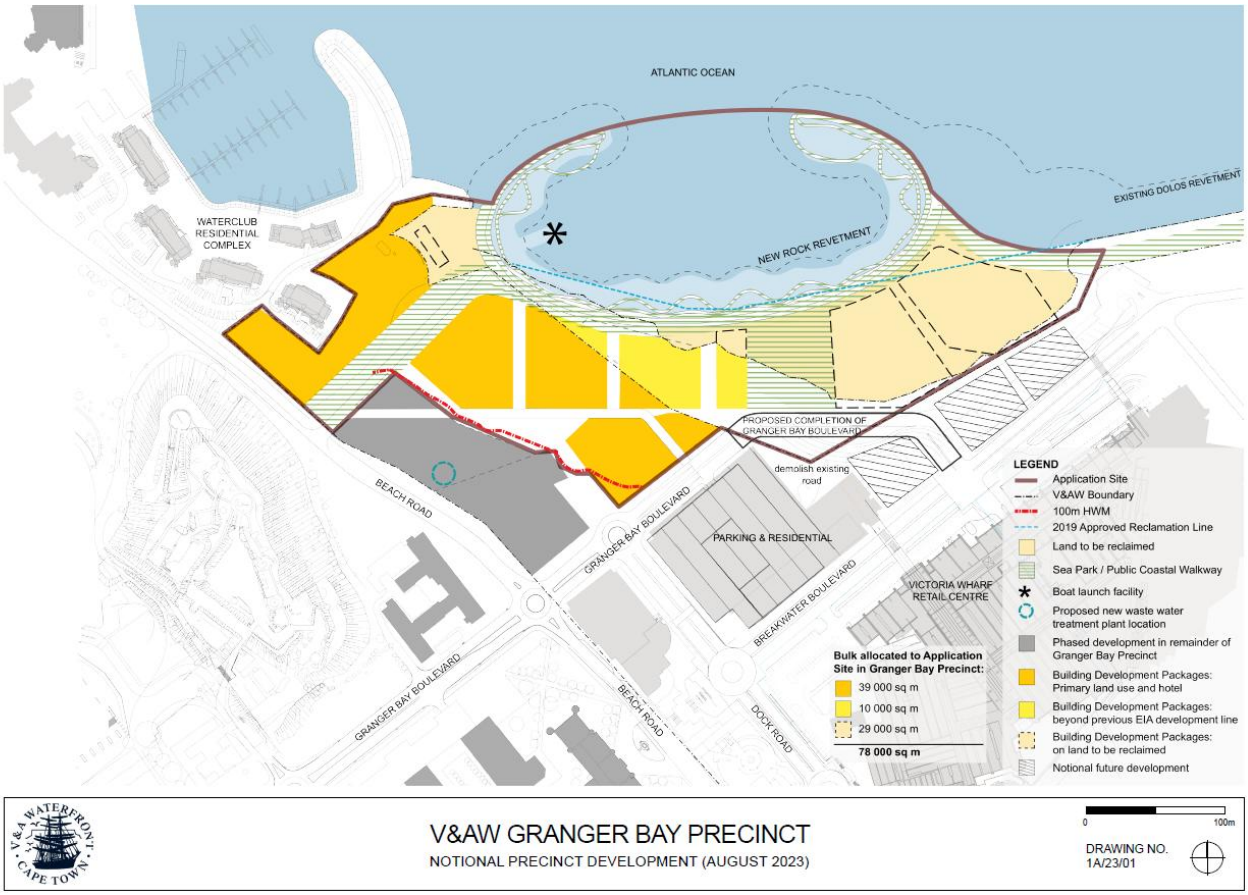


Figure 8-1: Proposed development and expansion of the V&A Granger Bay Precinct

8.3 Need and Desirability

The proposal is substantially in alignment with local and regional planning policies and frameworks.

8.3.1 Planning and Spatial Alignment

The proposal is located within a high-potential urban node identified for intensification in the Western Cape Spatial Development Framework and the City of Cape Town Municipal Spatial Development Framework (2023). The V&A Waterfront is recognised as a coastal destination node within the Urban Inner Core, where mixed-use development, densification, and enhanced public access are supported.

The project aligns with these frameworks by:

- Intensifying land use within an existing, well-serviced urban precinct;
- Supporting a compact, transit-oriented urban form;
- Enhancing public access along the coastline; and
- Strengthening Cape Town's tourism and visitor economy.

The development is also consistent with the City's Integrated Development Plan (2022-2027), which prioritises investment attraction, job creation, and inclusive economic growth.

8.3.2 Land Use and Infrastructure Rationale

The site is currently underutilised and partially degraded despite its prime coastal location. The proposal seeks to develop reclaimed land into a mixed-use precinct framed around coastal public amenities.

Key components include:

- An uninterrupted coastal promenade linking the V&A Waterfront to Sea Point;
- A sheltered public bay protected by breakwaters and a rock revetment;
- Tidal pools and marine recreation facilities;
- A relocated and upgraded public slipway; and
- Residential, hospitality and commercial uses that activate and support the public realm.

The reclamation responds to existing shoreline erosion and storm exposure while enabling improved coastal access and long-term infrastructure protection.

8.3.3 Environmental and Coastal Considerations

Specialist studies undertaken during the Scoping and EIA phases assess marine ecology, oceanography, marine mammals and climate change risks. Construction-related impacts are anticipated but are expected to reduce to acceptable levels following mitigation.

While temporary access restrictions may occur during construction, the operational phase will substantially improve public access, safety and amenity along the coastline. The design incorporates coastal protection infrastructure to address sea level rise and increased storm intensity associated with climate change. A Climate Change Impact Assessment has informed mitigation and adaptation measures to ensure long-term resilience.

8.3.4 Socio-Economic Benefits

The development is expected to generate significant economic benefits:

- Approximately 26,929 jobs are projected during construction (direct, indirect and induced).
- Around 822 jobs are anticipated annually during operations.

Construction is estimated to generate approximately R24.201 billion in total production and R8.825 billion in GDP contribution. The operational phase will provide ongoing economic output and strengthen tourism, retail and hospitality sectors. This increase in production is projected to contribute R322.3 million to GDP annually,

Public amenities, including a promenade, tidal pools, sea park, and a multifunctional quay, will provide enhanced, equitable access to coastal public property and support recreational and community activities.

8.3.5 Heritage Context

Although no heritage resources occur on the site, the area has visual and historical significance, including view corridors with Fort Wynyard and the broader coastal landscape. The proposal maintains required view corridors and limits building heights in accordance with existing heritage approvals.

The slipway, which holds social significance, will be retained and upgraded in a new location, maintaining public marine access and its community function.

8.3.6 Transport and Accessibility

The site is well-served by public transport, including MyCiTi BRT, rail, buses and minibus taxis, and aligns with the City's Transit-Oriented Development principles. The emphasis on walkability, non-motorised transport and integration with existing infrastructure supports sustainable mobility objectives. Temporary traffic disruptions during construction will be managed through mitigation measures*, and rock placement sites have been tested by the traffic engineers to determine appropriate vehicles requirements. The TIA has confirmed sufficient capacity on the external road network.*

8.3.7 Coastal Public Property and Exceptional Circumstances

As the proposal involves land reclamation, it must meet the threshold of "exceptional circumstances" under the Integrated Coastal Management Act. The motivation includes:

- Location dependency within an already transformed urban coastal precinct;
- Absence of reasonable land-based alternatives;
- Improved public access to the coastline;
- Enhanced coastal protection and risk management; and
- Comprehensive environmental assessment and mitigation.

8.3.8 Need and desirability conclusions

The proposed Granger Bay development aligns with provincial and municipal planning frameworks and responds to an underutilised coastal site within a strategic urban node. It enhances public access, strengthens tourism and economic activity, incorporates climate resilience measures, and maintains heritage sensitivities. Although environmental and construction-related impacts are anticipated, these are capable of mitigation to acceptable levels. On balance, the proposal

demonstrates need and desirability in terms of socio-economic benefit, spatial appropriateness and long-term sustainability, subject to the recommended mitigation measures.

8.4 Comparison of Alternatives and Summary of Impacts

The preferred development structure on the site has been determined based on socio-economic opportunities, alignment with spatial planning frameworks and long-term site viability (i.e., need for coastal protection).

8.4.1 Coastal protection & economic opportunities

As described extensively throughout this report, the existing coastal conditions at the site provide insufficient storm surge protection. With the **No-Go Alternative**, over time, the site will continue to degrade (as it already has) and this piece of coastline will remain vulnerable to storm surges, which, as described in the Climate Change Impact Assessment, is anticipated to only increase. Consequently, this area will remain underutilised and the anticipated positive impacts from the socio-economic benefits of the **Preferred Alternative** would not be realised.

With the **Preferred Alternative**, construction is estimated to generate approximately R24.201 billion in total production and R8.825 billion in GDP contribution. The operational phase will provide ongoing economic output and strengthen the existing tourism, retail and hospitality sectors. The **Preferred Alternative** would provide coastal protection infrastructure for this vulnerable section of coastline, as well as provide coastal and public amenities within the eastern breakwater.

8.4.2 Heritage & coastal access

It is possible that the **Preferred Alternative** will have a negative impact on pre-colonial archaeological material and possible shipwrecks in the development footprint. Mitigation measures have been proposed to avoid and mitigate the possible negative impacts on these heritage resources. The proposed development may also have an impact on the visual landscape of the site. View corridors from existing heritage approvals have also been considered in the design layout.

Generally, the coast is anticipated to become more accessible to the public with the **Preferred Alternative.** The slipway being of social significance has also meant that a new slipway has been incorporated into the design and access to the slipway will remain operational throughout the construction and post-construction phase. Launching conditions are also anticipated to be better with the proposed new slipway as part of the **Preferred Alternative**, as the slipway is more parallel with the modelled wave direction in the new bay, and the gradient is better.

The **No-Go Alternative** would not pose any negative impacts to heritage or visual resources; however, the coastline would remain largely inaccessible to the public and the slipway would continue to operate at sub-optimal conditions.

8.4.3 Marine environment impacts

Other significant negative environmental impacts associated with the **Preferred Alternative** include the disturbance and loss of marine ecosystems, particularly that of soft sediment habitat. While natural rocky shore habitat will be lost during the construction phase, the artificial habitat provided by the dolosse is anticipated to facilitate ecosystem recovery in the short-term. A significant unknown is the response of marine mammals to construction phase disturbance, particularly that of the resident population of Heaviside's dolphins. While it is expected that these cetaceans will avoid the area only temporarily during construction, there remains a chance that they could abandon the

area permanently. Mitigation measures proposed reduce the significance of these negative impacts to acceptable levels, including the implementation of a dedicated marine mammal monitoring protocol with adaptive management as set out in the EMPr.

The **No-Go alternative** does not pose any negative impacts to the marine ecosystems within the Granger Bay area. However, it must be noted that this area is already highly urbanised and experiences marine disturbance from existing vessel traffic and marine recreational activities.

8.4.4 Transport Network

The main negative transport impacts associated with the **Preferred Alternative** occur during construction due to rock haulage. Construction is anticipated to generate approximately 35 trips per day across two years, routed along Helen Suzman Boulevard, Buitengracht Street and Granger Bay Boulevard. Traffic volumes, pavement wear and dust generation are manageable through the implementation of a Traffic Management Plan, a designated haul route, peak-hour haulage exclusion, coordination with the City's Urban Mobility directorate and MyCiTi, and a pre-construction road condition survey. No significant impacts are anticipated on the external road network during the operational phase of the **Preferred Alternative**, and the development will be supported by MyCiTi, Park & Ride and micro-mobility services. Specific operational mitigation measures would apply only to portions of the development not utilising the V&A Waterfront's pre-existing development rights, to be determined by the City.

The **No-Go Alternative** would avoid the construction-phase haulage, congestion and pavement impacts, but would equally forgo the improved public and non-motorised transport integration and coastal access offered by the Preferred Alternative.

8.4.5 Construction Noise

Noise and vibration impacts of the **Preferred Alternative** are confined largely to the construction phase and arise from both land-side works (demolition and earthworks) and in-water activities (rock placement, pre-cast concrete works). *The cumulative daytime noise levels generally remain at or below 60 dB(A) across the residential façades. The noise modelling results indicate that the construction activities will be superimposed on an already elevated urban waterfront noise environment that is influenced by existing road traffic, harbour operations, recreational marine activities and other general Waterfront noise sources. With the implementation of the recommended 3m high temporary noise barrier during the construction of the western breakwater, noise disturbance is expected to be mitigated to an acceptable level, with noise monitoring in place to consistently assess the effectiveness of the mitigation measures.*

The **No-Go Alternative** would avoid these construction-phase impacts, though the area's baseline conditions already reflect ongoing disturbance from existing vessel traffic, marine recreational activities, surrounding construction and vehicle traffic.

The tables overleaf summarise the assessment of impacts documented in Section 7 of this report.

8.5 Summary of impact assessment

The tables below summarise the impacts, and assessed impact significances of the proposed development for the Construction Phase (Table 6-78) and Post-construction Phase (Table 6-79).

Table 8-3: Construction Phase Impacts

IMPACT DESCRIPTION	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
	WITHOUT MITIGATION	WITH MITIGATION	
MARINE ECOSYSTEM IMPACTS			
Disturbance of intertidal and subtidal artificial habitat: rocky habitat	Very Low Negative	Very Low Negative	None
Disturbance of intertidal and subtidal artificial habitat: soft sediment habitats	Very Low Negative	Very Low Negative	Neutral
Impacts of construction on West Coast Rock Lobster	Low negative	Low negative	Neutral
Disturbance to pelagic open water habitats	Very Low Negative	Very Low Negative	Neutral
Effects of construction waste generation and disposal on marine ecosystem	Medium, negative	Very Low, negative	None
Construction related pollution impacts on marine biota	Low, Negative	Very Low, Negative	Neutral
The effect of increased noise and vibration from construction on marine organisms (invertebrates, fish, birds)	Very low, negative	Insignificant, negative	None
Impacts of increased vessel presence on marine mammals	Low, negative	Very low, negative	None
Impact of underwater noise on marine mammals	Low, negative	Very low, negative	Neutral
Noise and vibration impacts of the reclamation and in-water marine construction for the western breakwater	Medium, negative	Low negative	Neutral
Noise and vibration impacts of the reclamation and in-water marine construction for the centre revetment	*Low, negative*	*Very low, negative*	*Neutral*
Noise and vibration impacts of the reclamation and in-water marine construction for the eastern breakwater	*Very low, negative*	*Very low, negative*	*Neutral*
Noise and vibration impacts of general land-side construction	Medium, negative	Low to medium, negative	Neutral
Dust impacts	Low to medium negative	Low negative	Neutral
ARCHAEOLOGICAL IMPACTS			
Damage to, or destruction of archaeological sites and/or artefacts	Medium, Negative	Low, Negative	Neutral
Impact on maritime archaeology (shipwrecks)	High, Negative	Low, Negative	Neutral
VISUAL IMPACTS			
Visual impacts of construction activities	Medium - High, Negative	Medium, Negative	Neutral
HERITAGE IMPACTS			
Loss of ocean-going user access to the coastline	Medium, negative	Low, negative	Neutral
Loss of pedestrian user access to the coastline	Medium, negative	Medium, negative	Neutral
TRAFFIC IMPACTS			
Traffic Volumes (Trucks and Staff Cars)	High, Negative	Medium, Negative	Neutral
Pavement Wear and Dust	Medium, Negative	Low, Negative	Neutral
Worker and Public Safety	High, Negative	Medium, Negative	Neutral
Temporary Closures and Diversions	High, Negative	Low, Negative	Neutral

IMPACT DESCRIPTION	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
	WITHOUT MITIGATION	WITH MITIGATION	
SOCIO-ECONOMIC IMPACTS			
Temporary stimulation of business production and GDP through construction expenditure	Medium-High, positive	High, positive	Neutral
Short-term employment creation during the construction phase	Medium-High, positive	High, positive	Neutral
Short-term increase in household earnings due to construction jobs	Medium positive	Medium-high positive	Neutral
Short-term increase in government revenue through construction-related taxes and fees	Medium positive	Medium positive	Neutral
Temporary disruption to local traffic flow due to construction-related activities	Medium-high, negative	Medium, negative	Neutral
Short-term environmental nuisance from construction activities including dust, noise and air pollution	Medium, negative	Low, negative	Neutral
Visual intrusion during construction impacting scenic and recreational value	Medium, negative	Low, negative	Neutral
Temporary disruption to recreational boating activities during construction due to limited access and safety concerns	Medium, negative	Low, negative	Neutral
Temporary displacement of marine wildlife due to construction noise and vessel activity, potentially affecting kayak/SUP tourism	Medium negative	Low, negative	Neutral
Temporary disruption to economic activity and informal trading during reclamation	Medium negative	Low negative	Neutral
CLIMATE CHANGE RISKS			
Extreme weather conditions delay construction	Very Low, negative	Very Low, negative	N/A
High shear stress impacts delay construction	Low, negative	Low, negative	N/A

Table 8-4: Post-construction Phase Impacts

IMPACT DESCRIPTION	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
	WITHOUT MITIGATION	WITH MITIGATION	
COASTAL DYNAMIC IMPACTS			
Wave reflections into Table Bay	Low, negative	Low, negative	None
Longshore sediment transport	Insignificant, negative	Insignificant, negative	Neutral
Short-wave reflections towards the Granger Bay Marina	*Very Low, negative*	*Very Low, negative*	None
Long-wave reflections towards the Granger Bay Marina	*Very Low, negative*	Very Low, negative	None
Short and long wave reflections onto the Granger Bay Marina *main* breakwater	*Insignificant, negative*	*Insignificant, negative*	None
Short and long wave reflections onto the Granger Bay Marina lee breakwater	*Very Low, negative*	*Very Low, negative*	*None*
Impacts on Small Craft Operations	Very Low, negative	Very Low, negative	None
MARINE ECOSYSTEM IMPACTS			
Change in habitat and system function	Low, negative	Very low, negative	None
Loss of rocky shore habitat, introduction of artificial habitat	Low, negative	Low, negative	None
Impacts on West Coast Rock Lobster over the long term	Low, positive	Low, positive	None
Increased vessel traffic	Medium, negative	Very low, negative	None
Impacts on marine mammals	Medium, negative	Medium, negative	Neutral
VISUAL IMPACTS			
Change in visual character and impact on scenic resources as a result of development, with no development resulting in area being used for temporary activities including material stockpiling	Medium-High, Negative	Medium, negative	Medium, Negative
Visual intrusion on Sense of Place	Medium - High, negative	Medium, negative	Low, negative
Light pollution	Medium, negative	Low, negative	Low, negative
HERITAGE IMPACTS			
Visual, physical or design implied constraints on pedestrian access to coastline	High, negative	Low – Medium, negative	Low, negative
TRANSPORT IMPACTS			
Increased Traffic Volumes	High, negative	Low, negative	Neutral
Intersection Performance and Capacity	High, negative	Low, negative	Neutral
Access Safety and Local Circulation	Medium, negative	Very low, negative	Neutral
Impact on non-motorised and PT facility provision	Medium, negative	Very low, negative	Neutral
SOCIO-ECONOMIC IMPACTS			
Sustained increase in economic output and GDP from ongoing operational activity	Medium, positive	High, positive	Neutral
Long-term employment opportunities generated by retail, hospitality and operations	Low-medium, positive	High, positive	Neutral
Long-term income streams from stable employment	Medium positive	Medium-high positive	Neutral
Sustained increase in government revenue through rates, taxes and permits	Medium positive	Medium positive	Neutral
Increased traffic volumes associated with residential, commercial, and recreational activities within the precinct	Low, negative	Low, negative	Neutral
Opportunities for local workforce training and upskilling in urban services	Low positive	Medium positive	Neutral
Permanent change to coastal skyline and visual character due to mixed-use buildings and coastal engineering works	Medium, positive	Medium – High, positive	Neutral
Improved access to high-quality public spaces and recreational amenities for residents and visitors	Medium-High positive	High positive	Neutral

IMPACT DESCRIPTION	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
	WITHOUT MITIGATION	WITH MITIGATION	
Enhanced coastal public access through the development of coastal infrastructure	Medium – High, positive	High, positive	Neutral
Increased tourism potential and visitor spending in the area	Medium-high positive	High positive	Neutral
Increased access to marine infrastructure supporting recreational boating, tourism operators and small marine enterprises	Medium-high positive	High positive	Neutral
Support for long-term wildlife-based marine tourism, particularly kayaking/SUP operators reliant on wildlife sightings	Medium positive	Medium-high positive	Neutral
Long-term integration of reclaimed land into the urban surrounding, improving land use efficiency and coastal access	Medium-high positive	High positive	Neutral
Enhanced physical and visual access to the coastline, benefiting diverse user groups	Medium-high, positive	High, positive	Neutral
CLIMATE CHANGE RISKS			
The proposed development prevents high wind speeds and associated storm surge in the area damaging established infrastructure.	Medium, positive	Medium, positive	Medium, Negative
The proposed development reduces the risk of the projected increase in sea level, coupled with the high wind speeds and shear stresses experienced, increasing the potential for coastal flooding.	Medium, positive	Medium, positive	Medium, Negative
The proposed development reduces the risk of the projected increase in sea level, coupled with the high wind speeds and shear stresses experienced, increasing the potential for coastal erosion	Medium, positive	Medium, positive	Low, Negative
Reduced water availability increasing the use of freshwater from aquifers, coupled with the increases in sea level. This increases the potential for groundwater intrusion, and therefore, salinisation. The development will have minimal impact on this regional impact of climate change.	Low, negative	Low, Positive	Low, Negative
Increased drought susceptibility and extended dry periods may reduce water availability for the development	Low, negative	Low, negative	Low, Negative
Reduced water availability and increased temperatures in the region may increase the likelihood of fires starting offsite and spreading to Granger Bay, damaging infrastructure	Very low, negative	Very low, negative	None
The reductions in ocean pH and increased sea level and sea temperature, coupled with the high wind speeds already experienced, increasing the potential for, and rate of, physical and chemical corrosion	Low, negative	Low, negative	Low, Negative
The projected increases in mean temperatures and reduced ocean pH increasing the potential for inland chemical corrosion	Low, negative	Low, negative	Low, Negative

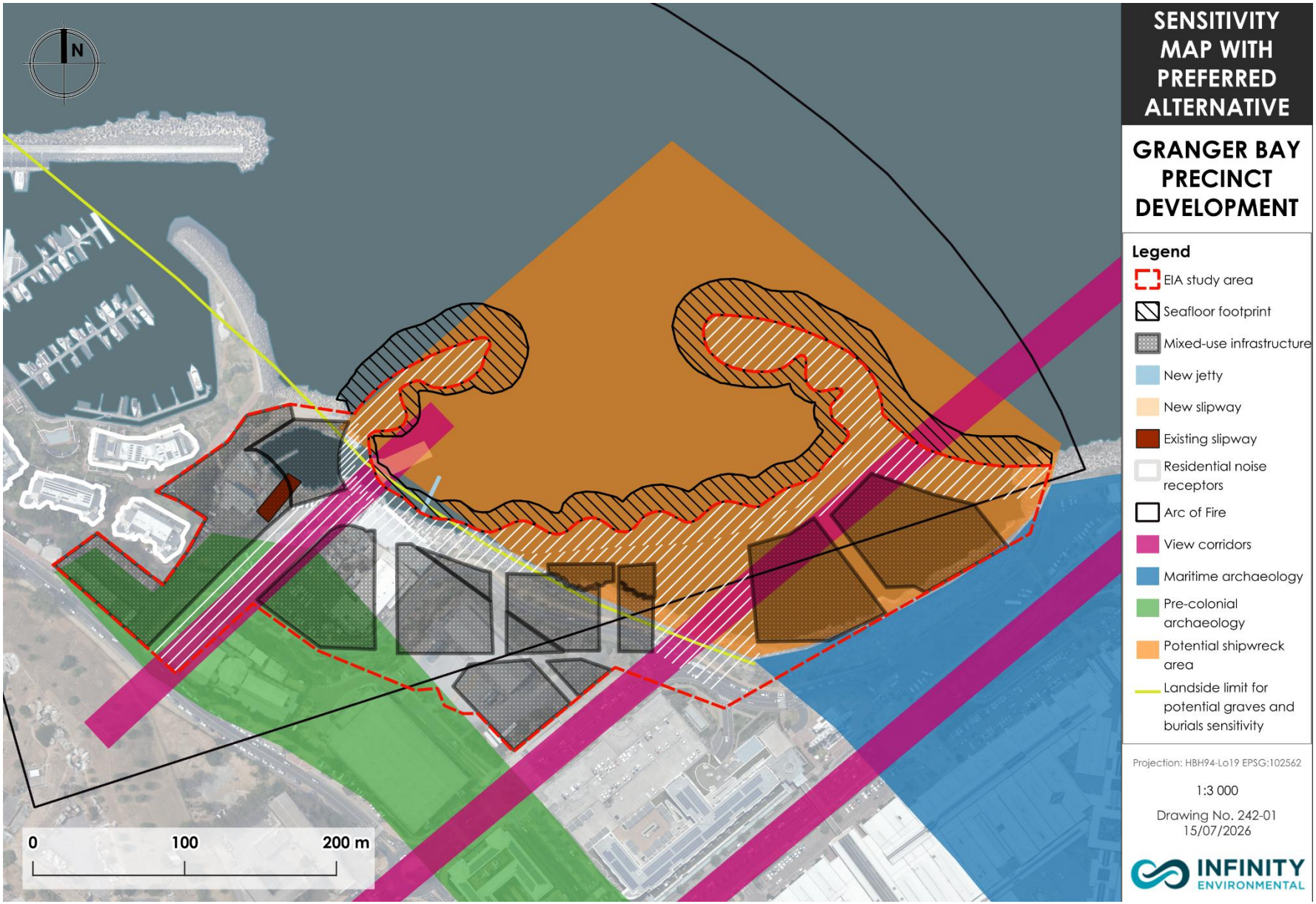


Figure 8-2: Preferred Alternative infrastructure superimposed onto environmental sensitivities

8.6 Assumptions, Limitations and Uncertainties

While this Environmental Impact Assessment has been undertaken using accepted scientific methods, specialist input, and available site-specific and regional data, a degree of uncertainty is inherent in predicting environmental impacts associated with the proposed development.

Key sources of uncertainty include:

- Baseline data limitations: Certain specialist studies rely on temporal snapshots of environmental conditions (for example seasonal ecological surveys and marine fauna observations), which may not fully capture inter-annual variability or episodic events.
- Predictive modelling assumptions: Impact predictions, particularly relating to coastal processes, marine ecology, and climate change, are based on established models and assumptions regarding future conditions. These models simplify complex natural systems and may not fully account for all dynamic interactions.
- Climate change projections: Anticipated changes in sea level rise, storm frequency, and coastal dynamics are based on current global and regional projections, which carry inherent uncertainty in both magnitude and timing.
- Effectiveness of mitigation measures: The assessment assumes that proposed mitigation measures, including management plans and monitoring programmes, will be effectively implemented and maintained over time. Variability in implementation may influence actual outcomes.
- Cumulative impact interactions: While cumulative impacts have been considered, the future trajectory of surrounding developments and activities cannot be predicted with certainty.
- Marine fauna behaviour: The response of marine mammals and other fauna to construction-related disturbance (including underwater noise) is inherently variable and may differ from predicted responses.

Despite these uncertainties, the assessment adopts a precautionary and conservative approach, particularly where data are limited, to avoid underestimation of potential impacts.

To address residual uncertainty, the following measures are incorporated:

- Implementation of adaptive management through the Environmental Management Programme (EMPr)
- Monitoring programmes to verify predicted impacts and mitigation effectiveness
- The ability to refine mitigation measures where monitoring indicates the need for adjustment

Based on the above, it is considered that the level of uncertainty does not preclude informed decision-making, provided that the recommended mitigation and monitoring measures are implemented.

8.7 Conclusion

Based on the findings of the specialist studies and on the other factors considered in the impact assessment, **it is recommended that the Preferred Development Footprint Alternative be authorised (Figure 8-3)**.

The **Preferred Alternative** maximises economic benefits and public coastal amenities while providing much needed coastal protection infrastructure. The proposal implements key urban design principles including coastal access and space allocation for marine users, without unacceptably high impacts on the sensitive areas identified on site.

Of the 38 discrete impacts assessed across both phases, no impact is rated High Negative post-mitigation. A significant potential negative impact pre-mitigation is the visual intrusion from the proposed built development on views from the Water Club, Green Point, and Signal Hill (High Negative), which reduces to Medium Negative after implementation of the VIA-prescribed massing, interface, and view corridor measures. Noise and vibration from marine construction is rated Medium Negative pre-mitigation, reducing to Low Negative post-mitigation for the worst-case scenario, with the Water Club as the nearest residential receptor.

Significant positive impacts, all rated High Positive, include the construction-phase economic stimulus (R24.2 billion production; ≈26,929 jobs) and the sustained operational economic, employment, and public amenity benefits. The 750m long public promenade, tidal pools, sea park, and universally accessible coastal edge represent a positive transformation of a currently underutilised and unsafe section of Cape Town's coastline.

The main significant residual environmental risk is the permanent loss of rocky shore and soft sediment marine habitat within the reclamation and seafloor footprint of the proposed revetment, reclamation and breakwaters (rated Medium-High Negative pre-mitigation), which reduces to Medium Negative post-mitigation. This residual impact reflects the irreversible nature of land reclamation and is accepted in the context of the ecological enhancement measures (artificial reef colonisation, tidal pools, no-take zone considerations) and the substantial public benefit delivered.

On balance, the EAP's assessment is that the proposed development provides an acceptable balance between the constitutional imperatives of environmental protection and ecologically sustainable development, and is recommended for environmental authorisation subject to implementation of all EMPr conditions.

Figure 3-26 superimposes the proposed activity and its associated infrastructure on the environmental sensitivities of the proposed development footprint on the approved site as contemplated in the accepted scoping report. No ‘no-go’ areas are defined given the nature of the activity, but the footprint of the proposed development should be limited to that shown.

In order to ensure the effective implementation of the mitigation and management actions, an EMPr is included as Appendix D of this EIA Report. The mitigation measures necessary to ensure that the project is planned, constructed, and operated in an environmentally responsible manner are listed in this EMPr. The EMPr should be updated regularly and provide clear and implementable measures for the establishment and operation of the proposed development.

This assessment is based on the best available information and specialist input at the time of reporting. However, uncertainties remain due to limitations in baseline data, predictive modelling

assumptions, and the variable response of environmental systems, particularly in relation to marine ecology and climate change. A precautionary approach has been applied to impact assessment, and adaptive management measures, including monitoring and refinement of mitigation actions, are recommended to address residual uncertainty.

Taking into consideration the findings of the various specialist studies and the issues raised by interested and affected parties and organs of state, it is the EAP's reasoned opinion that the proposed activity should receive Environmental Authorisation in terms of the EIA Regulations, 2014, subject to the following conditions:

1. The **Environmental Management Programme** (EMPr) forming part of this EIA Report must be implemented during the design, construction and post-construction phases of the development.
2. An independent **Environmental Control Officer** must be appointed for the duration of the construction phase and must carry out the responsibilities of that role as defined in the EMPr.
3. **Operational management agreements** for the management of the new slipway and bay area should be in place before construction commences.
4. **Designs of the boating launching area and slipway** must provide for, at minimum, an equivalent number of trailer parking bays to that currently available at the existing slipway, at a distance of no more than 150 metres from the launch site.
5. Measures must be implemented during the post-construction phase to make **ocean users aware of potential wave amplification** within the new bay and potential increases in wave heights that could be experienced.
6. **A Marine Mammal Monitoring Plan** must be implemented during the construction of the coastal infrastructure.
7. **A geophysical survey of the seabed**, (sidescan sonar, multibeam bathymetry and magnetometry), should be conducted in the project area prior to any land reclamation activities, to confirm whether there are shipwrecks or other heritage sites present.
8. **Archaeological monitoring** must be conducted as part of the construction of the coastal infrastructure. The results of the geophysical survey should be reviewed by a suitably qualified archaeologist.
9. **Dust management** must be implemented during construction, in particular measures to prevent the introduction of fine particles into the marine ecosystem through quarried rock (e.g., implementing PRDW's Generic Rock Specification). Silt curtains should be used around coastal infrastructure, where practical and feasible.
10. A **Water Quality Monitoring Plan** should be conducted, with baseline measurements taken prior to the commencement of construction activities. Monitoring should continue throughout the construction phase to determine if construction activities are negatively impacting water quality. Water quality must also be monitored during the post-construction phase, specifically near the eastern breakwater where users may swim to ensure there is no undue risk to public health.
11. A **Traffic Management Plan** be compiled before construction to manage transport related impacts.
12. *The **noise mitigation measures** specified in the EMPr be implemented.*
13. ***HWC be consulted** in line with its final comment in relation to precinct plan submissions.*

It is proposed that environmental authorisation should be granted for a period of ten years, with construction activities below the highwater mark to be completed within a period of ten years after commencement, and construction inland of the highwater mark within a further 20 years thereafter.



Figure 8-3: Proposed design Alternative 2: Proposed Development Footprint with Public Space

CHAPTER 9
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July 2026

Amended Environmental Impact Assessment Report

INFINITY ENVIRONMENTAL

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DECLARATION OF THE APPLICANT

I, **NEIL SCHWARTZ**, ID number **580526----086**, in my duly authorised capacity, hereby declare/affirm that all the information submitted or to be submitted as part of this application form is true and correct, and that:

- I am fully aware of my responsibilities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment ("EIA") Regulations, and any relevant Specific Environmental Management Act and that failure to comply with these requirements may constitute an offence in terms of relevant environmental legislation;
- I am aware of my general duty of care in terms of Section 28 of the NEMA;
- I am aware that it is an offence in terms of Section 24F of the NEMA should I commence with a listed activity prior to obtaining an Environmental Authorisation;
- I appointed the Environmental Assessment Practitioner ("EAP") which meets all the requirements in terms of Regulation 13 of the NEMA EIA Regulations;
- I will provide the EAP and any specialist, where applicable, and the Competent Authority with access to all information at my disposal that is relevant to the application;
- I will be responsible for the costs incurred in complying with the NEMA EIA Regulations and other environmental legislation, including but not limited to –
  - costs incurred for the appointment of the EAP or any legitimate person contracted by the EAP;
  - costs in respect of any fee prescribed by the Minister or MEC in respect of the NEMA EIA Regulations;
  - Legitimate costs in respect of specialist(s) reviews; and
  - the provision of security to ensure compliance with applicable management and mitigation measures;
- I am responsible for complying with con ditions that may be attached to any decision(s) issued by the Competent Authority, hereby indemnify, the government of the Republic, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which I or the EAP is responsible in terms of the NEMA EIA Regulations and any Specific Environmental Management Act.

Signature of the Applicant:



Date: 14 July 2026

Name of company: **V&A Waterfront Holdings (Pty) Ltd**

DECLARATION OF THE EAP

I, **JEREMY THEMBA ROSE**, EAP Registration number **2019/1116**, as the appointed EAP, hereby declare/affirm the correctness of the:

- Information provided in this draft EIA Report and any other documents/reports submitted in support of this draft EIA Report;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties, and that:
- In terms of the general requirement to be independent, other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
- In terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed, to the Applicant, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this application;
- I have ensured that information containing all relevant facts in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- I have ensured that the comments of all interested and affected parties were considered, recorded, responded to and submitted to the Competent Authority in respect of this application;
- I have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, where relevant;
- I have kept a register of all interested and affected parties that participated in the public participation process; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations;

Signature of the EAP: 

Date: 14 July 2026
EAP Company: **Infinity Environmental (Pty) Ltd**