S42A Report to the Hearing Committee on a notified resource consent application

Summary of application

Activity:	To construct and operate a 4.4 km Shared Path (cycleway and pedestrian access) along the seaward edge of Marine Drive.
File Reference:	WGN190301
Applicant:	Hutt City Council Transport Department
Consents Sought:	**Operative Regional Plans** **[36232]: Discretionary Activity** Coastal permit for the reclamation and associated drainage of the foreshore and seabed. **[36233]: Discretionary Activity** Coastal permit to: • Construct new structures, and undertake additions and/or alterations, replacement, and removal and demolition of existing structures (seawalls, rock revetments, boat ramps, beach access structures, edge protection structures, stormwater outlets) located within the coastal marine area, including any associated: – Destruction, disturbance, deposition and discharge of contaminants to the foreshore and seabed during construction – Occupation of space within the coastal marine area • Deposit natural materials, including sand, shingle and shell, onto the intertidal beach at Point Howard, Lowry Bay and York Bay for beach nourishment purposes.

[37298]: Discretionary Activity
Land use consent to undertake earthworks associated with construction of the Shared Path, including associated discharges of sediment laden water to land where it may enter coastal water.

[37299]: Discretionary Activity
Discharge permit to discharge sediment laden water to coastal water during excavation activities and dewatering in the coastal marine area.

[37300]: Discretionary Activity
Water permit to take groundwater and divert coastal water associated with dewatering activities during construction.

Proposed Natural Resources Plan

[36232]: Discretionary Activity
Coastal permit for the reclamation and associated drainage of the foreshore and seabed.

[36233]: Non Complying Activity
Coastal permit to:

- Construct new structures, and undertake additions and/or alterations, replacement, and removal and demolition of existing structures (seawalls, rock revetments, boat ramps, beach access structures, edge protection structures, stormwater outlets) located within the coastal marine area, including any associated:
  - Destruction, disturbance, deposition and discharge of contaminants to the foreshore and seabed during construction
  - Occupation of space within the coastal marine area
- Deposit natural materials, including sand, shingle and shell, onto the intertidal beach at Point Howard, Lowry Bay and York Bay for beach nourishment purposes.

[37298]: Discretionary Activity
Land use consent to undertake earthworks associated with construction of the Shared Path, including associated discharges of sediment laden water to land where it may enter coastal water.

[37299]: Discretionary Activity
Discharge permit to discharge sediment laden water to coastal water during excavation activities and dewatering in the coastal marine area.

[37300]: Discretionary Activity
Water permit to take groundwater and divert coastal water associated with dewatering activities during construction.

Location: The seaward side of Marine Drive, between Point Howard and the northern end of Days Bay; and extending from the southern end of Days Bay (Windy Point) to Eastbourne (at Muritai Road/Marine Drive intersection).

Legal description: Legal Road and Local Purpose Reserve, Sec 1 SO 31984, Lot 4 DP 10005, Lot 1 DP 1538 and the Coastal Marine Area (CMA).

Map Reference: Between at or about map references NZTM: 1759498.5431412 and 1759488.5428876 (Point Howard to northern end of Days Bay) and NZTM: 1759529.5428045 and 1759225.5427749 (southern end of Days Bay to Eastbourne)

Report prepared by:	Shannon Watson	Consultant Environmental Planner		23 Nov 2020
Report peer reviewed by:	Michelle Conland	Environmental Consultant		23 Nov 2020
Report approved by:	Dave Rennison	Team Leader, Consents & Compliance		23 Nov 2020

Statement of experience of the reporting officer

My name is Shannon Watson and I have been working as a consultant environmental planner at GHD since September 2019.

Prior to that I worked at Greater Wellington Regional Council (GWRC) as a Resource Advisor in the Roads of National Significance Team and the Earthworks and Coastal Team for a total of 3.5 years. I have also worked as an environmental planner at Kaipara District Council for 18 months. In total I have 6 years of experience as an environmental planner.

I hold a Bachelor of Environmental Planning majoring in Environmental and Natural Resource Economics from the University of Waikato. I am an Intermediate Member of the New Zealand Planning Institute.

Contents

WGN190301 Eastern Bays Shared Path

1. Purpose

This report provides an analysis of the resource management issues in respect of the resource consent application made by the Hutt City Council Transport Department (HCC Transport, the applicant) to construct and operate a 4.4km shared path for both cyclists and pedestrians known as the Eastern Bays Shared Path or Eastern Bays cycleway along the seaward edge of Marine Drive in Lower Hutt's Eastern Bays (the Shared Path, the project).

On Wednesday 17 April 2019 GWRC and HCC Consents received an application for resource consents from HCC Transport to construct, operate and maintain a 4.4 km Shared Path (cycleway and pedestrian access) along the seaward edge of Marine Drive in Lower Hutt's Eastern Bays. The application was formally received on 15 May 2019.

This resource consent application included a request for the application to be heard as a jointly notified application. The Shared Path, seawalls, steps, ramps and bus shelters which are to be located within the CMA on land to be reclaimed under this resource consent application, will be dealt with under s 89(2) of the RMA as if the application related to an activity within the HCC district.

The proposal includes construction of new structures, and additions and/or alterations, replacement, and removal and demolition of existing structures (including seawalls, revetments, boat ramps, beach access structures and stormwater pipes), to accommodate the proposed Shared Path. The proposal also includes beach nourishment as a mitigation measure to maintain existing high-tide beach that will be partially lost to enable the proposed Shared Path.

The assessment and recommendations contained in this report are not binding on the Commissioners. This report has been prepared without knowledge of the content of any evidence or submissions that will be made at the hearing; consequently it cannot be assumed that the Commissioners hearing the application will reach the same conclusions as those provided in this report.

A separate s42A report has been prepared by Mr Dan Kellow on behalf of Hutt City Council Consents Department (HCC Consents) in respect of the resource consent applications within HCC Consents' jurisdiction.

2. Project objectives and context

2.1 Project objectives

Marine Drive is a key access road in a modified coastal environment that provides existing public access to and along the CMA. The project seeks to redevelop the coastal edge of Marine Drive to include a shared cycle and walkway, as well as build resilience into the existing infrastructure through the upgrade of the seawalls in a number of locations. The application states that the path has been designed to enhance public access and is expected to enhance community cohesion, provide greater amenity benefits, widen transport choices

and improve access to local facilities, including public open space such as the beaches and Whiorau Reserve located along Marine Drive.

The applicant's objectives for the proposal are to:

- Develop a safe and integrated walking and cycling facility along Marine Drive to connect communities along Hutt City's Eastern Bays and to provide links to other parts of the transport network for recreation and tourism purposes; and

- Improve, and provide a basis for future opportunities to protect, the resilience of Marine Drive and underground services by upgrading the supporting seawalls.

2.2 Project context

The application states that the Eastbourne Community Survey (2014) revealed that the top two issues for residents in the Eastern Bays were completion of an Eastern Bays walk/cycleway and climate change, including extreme weather events. Since this time the Shared Path has featured in HCC strategic reports and plans in one form or another and is identified as a key project to provide a safe and integrated network for commuting and recreational purposes under the '*Walk and Cycle the Hutt 2014 – 2019'* and the *'Leisure and Wellbeing 2012-2032'* strategies. Hutt City Council's Infrastructure Strategy 2018-2048 identifies the commitment to funding the construction of the shared path, identifying it as one of several 'significant projects' and a 'key project' incorporated into the HCC Long Term Plan.

At present, pedestrian and cyclist connectivity and use within the Eastern Bays transport network is low. The application considers that this is due to a lack of dedicated cycling and walking facilities and the geographically constrained nature of Marine Drive. For much of the length of Marine Drive, cyclists and pedestrians must use either the narrow road shoulder, where available, or the 'live' carriageway of Marine Drive

HCC has been undertaking consultation on a planned cycleway since early 2016 and previous reports and concept designs have been developed for sections of the Eastern Bays. These designs were dependent on the replacement of nearly the entire length of existing seawalls, on the basis of ensuring resilience against storm surges and sea level rise. In addition to providing more space to accommodate a shared path, a key outcome of the previous designs was to reflect wave energy and reduce incidents of overtopping during storm events.

Further public engagement was undertaken by MWH (now Stantec) at the end of 2016. The consultation process adopted a 'bay-by-bay' approach, with dedicated sessions for individual bays, focussing on the key issues faced by each bay along the project length. The design was refined during the early part of 2017 and a series of community meetings were held in August 2017 to obtain input from the community on the design. Since the initial community engagement mentioned above, further discussions have been held with residents

seeking further input into the design[1] and changes to the design have been made in response to community feedback.

2.3 Strategic context

2.3.1 Land Transport

The Shared Path will form a key part of the Te Aranui o Pōneke or the 'Great Harbour Way' (the Great Harbour Way) around Te Whanganui-a-tara, the Wellington Harbour. The proposed route links Fitzroy Bay in the east to Sinclair Head in the west and also provides linkages to the Remutaka Cycle Trail (one of the New Zealand Great Rides).

The Shared Path is considered Regionally Significant Infrastructure (RSI)[2], being an integral component of the Strategic Transport Network as part of the regional cycling network classified as having a combined utility and recreational focus identified in the Wellington Regional Land Transport Plan 2015.

The application states a shared pedestrian and cyclist facility connecting the Eastern Bays also featured highly in the National Land Transport Programme 2018-21 (NLTP) priority list for projects in the Wellington Region.

2.3.2 Resilience

In response to climate change, the proposal seeks to provide immediate protection, and for future opportunities to improve the resilience of Marine Drive and underground services, by upgrading the supporting seawalls. Marine Drive provides the only road access to the Eastern Bays and key infrastructure services, including the main outfall sewer pipeline (MOP)[3] operated by Wellington Water Limited, are located within the road corridor.

Marine Drive is subject to wave overtopping during storm surges which has resulted in the road being closed. The application states that between 2012 and 2016, an average of 81 hours per annum of emergency debris clearance was required along Marine Drive. In addition, since June 2010, there have been six storm incidents that have required seawall maintenance, including improvements to the seawall and repairing damage to the road shoulder and coastal edge.

The effects of climate change are likely to worsen the effects of storm events on the existing infrastructure in the medium to long-term. The application describes that sea level rise, and larger more frequent storm events attributed to climate change, coupled with the current state of the seawalls are likely to result in a significant increase in the frequency of disruption and closure of Marine Drive.

The application further describes that, as structures along the seaward edge have been built in an ad hoc nature over time, the existing seawalls and protection

[1] Engagement undertaken by the applicant is outlined in the Stakeholder Engagement and Consultation Report (SECR) contained in Appendix I of the application.
[2] In terms of the Proposed Natural Resources Plan the Eastern Bays Shared Path meets the definition of Regionally Significant Infrastructure as it is identified as part of the Strategic Transport Network as a section of the regional cycling network classified as having a combined utility and recreational focus identified in the Regional Land Transport Plan 2015.
[3] The MOP is an 18km long pipeline that conveys secondary treated wastewater from the Seaview Wastewater Treatment Plant (which services 146,000 residents and a large number of local industries) to the outfall at Bluff Point, near Pencarrow Head.

structures are vulnerable to failure and do not provide effective storm mitigation. Assessments of the structural integrity of existing seawalls have indicated that complete replacement of the seawalls are not economically justified on a protection basis alone, as many sections still have over 20 years' residual life. However, areas of the existing seawall were assessed to have a residual life of less than 5 years. Those areas with less than 5 years' design life will be prioritised for replacement, with remaining seawalls proposed to be constructed during subsequent phases of the project.

The applicant emphasises that the project is not a solution to the effects of sea level rise, and instead provides the first step in potentially incremental upgrades that would assist in providing protection to the road (and underground services) from the effects of sea level rise along this section of the coast. The proposed seawalls do not preclude future options and have been designed to enable additional protection to be added in the future if considered appropriate.

3. Location

The project focuses on the coastal edge of Marine Drive, stretching between Point Howard and the northern end of Days Bay, and the southern end of Days Bay (Windy Point) to Eastbourne, terminating at the Muritai Road/Marine Parade intersection. The Bays the project runs through are known collectively as the Eastern Bays and include (from north to south) Point Howard, Sorrento Bay, Lowry/Whiorau Bay, York Bay, Mahina Bay, Sunshine Bay, Days Bay, and Windy Point.

Although the Shared Path will run through Days Bay, Days Bay is not included within the scope of this consent as it currently provides a lower speed limit, some safe facilities for pedestrians and increased widths for on-road cyclists. Seaview, Rona Bay, Eastbourne Village and Robinson Bay although likely to provide cyclist and pedestrian connections to the Shared Path are also outside the scope of the project.

The Shared Path will be located along the coastal edge of the Marine Drive road corridor, and will be achieved by re-configuring the layout of the existing road corridor where possible[4], and by gaining additional width through the construction of new, or the upgrade of existing seawalls (including revetments) along the seaward edge of Marine Drive. However, in certain sections the Shared Path will also traverse both private and public land that is not road reserve. These sections of land are shown in Table 1 below.

Table 1: Property parcels affected by Shared Path

Landowner	Legal Description	Location	Comments
CentrePort Limited	Sec 1 SO Plan 31984	Point Howard	Seaview Port at Point Howard. Shared Path traverses CentrePort land at existing carpark but no replacement of seawalls will be undertaken along this section.

[4] Revising the width of the road carriageway without having to extend into the foreshore or private property

Hutt City Council (Local Purpose Reserve)	Sec 1 SO Plan 32758	Whiorau Reserve	Whiorau Reserve at southern end of Lowry/Whiorau Bay. Shared Path traverses reserve but no replacement of seawalls will be undertaken along this section. Minor earthworks including removal of surface soil.
Hutt City Council (Local Purpose Reserve)	LOT 1 DP 8096	Mahina Bay	Shared Path potentially goes through edge of reserve
Hutt City Council (Local Purpose Reserve)	LOTS 5, 6 & 7 DP 1694 0001	Sunshine Bay	Shared Path likely to encroach slightly over a corner of reserve from the road reserve
Hutt City Council (Local Purpose Reserve)	PT LOT 3 DP 14002 & PT LOT 2 DP 18500	Windy Point	Shared Path will traverse sections of the reserve; southern section (opposite 715 Marine Drive) will require construction of curved seawall (including excavating footings/trenching)
James Robert Thomas and Janete Thomas	Lot 4 DP 10005	Mahina Bay	Existing informal car-parking area to be retained

4. Proposal

The current proposal reflects a preliminary design for consenting developed as a 'worst case scenario' to establish the 'envelope of effects'.

In summary, the proposal includes:

- The construction of a continuous shared path along the coastal edge of Marine Drive
- The replacement of parts of existing seawalls and the construction of new curved seawalls with either a single, double or triple curve seawall face
- The placement of rock revetment to protect the path at certain locations subject to increased wave exposure
- The construction of new structures, additions and/or alterations, replacement, and removal and demolition of existing structures including boat ramps, beach access structures and stormwater outlets
- The placement of beach nourishment material at three beaches – Point Howard, Lowry Bay and York Bay
- Construction of safety barriers at locations where the fall height from the crest of the seawall will exceed 1 m.

Further detail on these activities is provided below.

The proposal also includes the construction of new, and modification and relocation of existing, design features and structures to be located on the surface of the Shared Path and existing road corridor. Such features include wheel stoppers, kerb separators, bus shelters, street lighting, signage, seating and street furniture. These elements of the proposal are addressed by Mr Kellow in his s42A report on behalf of HCC consents.

4.1 Shared Path

The Shared Path will be continuous from Point Howard to the south end of Sunshine Bay, and again from the south end of Days Bay around Windy Point to the intersection of Marine Drive and Muritai Road. The Shared Path transitions back into existing sealed road shoulder at the end of each of these sections.

The proposed Shared Path varies in width from 2.5 m to 3.5 m. A path width of 2.5 m has been proposed by the applicant at sensitive locations such as high-tide beaches, locations where existing trees and heritage structures (Skerrets Boatshed) are present, and areas where the path transitions across surface types or into existing road shoulder. The application describes that the path width has been reduced at these locations to minimise the extent of encroachment into the CMA, loss of useable high-tide beaches, and adverse ecological effects in these areas.

In summary, the Shared Path will comprise:

- Approximately 2,887 m of 3.5 m wide shared path, including the existing path at the south end of York Bay
- Approximately 955 m of 2.5 m wide shared path[5]
- Approximately 170 m of path that will transition between 2.5 m and 3.5 m.

This information has been drawn from the Landscape and Visual Amenity Assessment attached as Appendix D of the application AEE. I note that HCC Consents' operational safety expert Mr David Wanty disagrees with this assessment of the path configuration. **I would therefore recommend the applicant confirm the configuration of the Shared Path in terms of lengths of the path at the respective path widths in advance of the hearing.**

A detailed description of the path width at each bay location can be found in section 5 of the application and can be seen in the Preliminary Design Plans in Appendix N of the application AEE.

While the overall width of the Shared Path varies between 2.5 and 3.5 m, the surface and edge treatment will be consistent along its length. The path will be asphalt and defined by a concrete separator (or similar) on the inland (road) side

[5] including a 195 m section linking the end of Seaview across the Point Howard wharf entry to the Point Howard beach, plus 245 m of shared path running through Whiorau Reserve using an existing path with localised widening to create a consistent 3.0 m width.

of the path to separate path users from the 'live' road corridor and by a 300 mm wide concrete trim on the coastal edge of the path which will be flush with the top of the seawall. The appearance of the proposed shared path will replicate the existing 3.5 m wide section of path at the south end of York Bay constructed in 2009 (refer Figure 1).

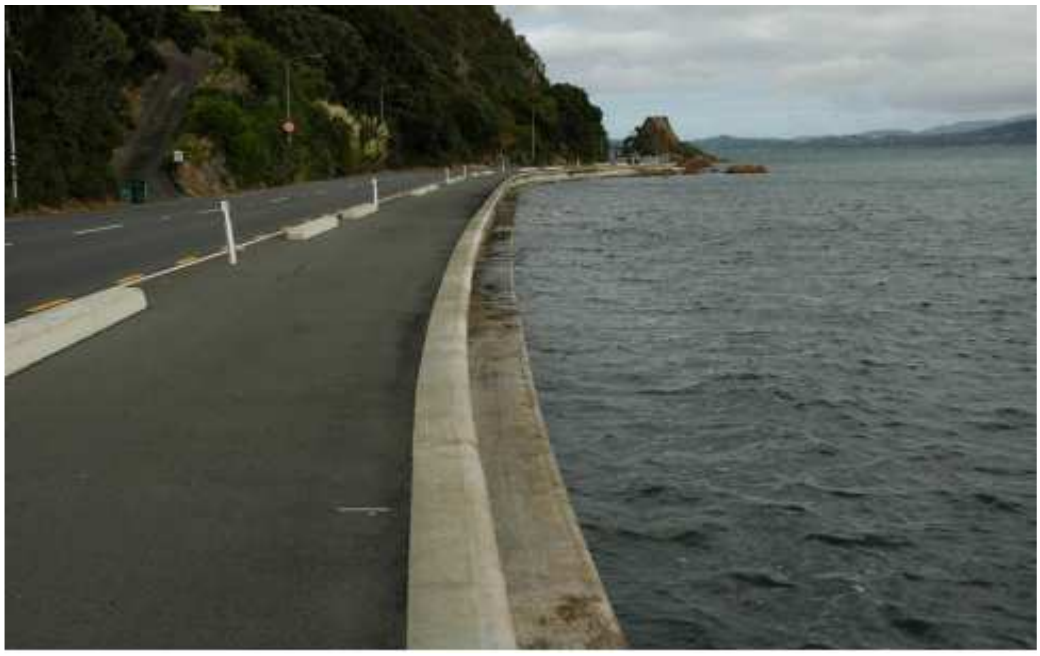

Figure 1: Existing coastal path at southern end of York Bay

While some sections of the Shared Path can be accommodated within the existing road reserve, other sections will require the widening of the existing road shoulder into the CMA. Along the project length of 4.4 km, approximately 3.14 km will require works along the foreshore, while 1.3 km will remain unchanged with works to be contained within the existing road corridor.

4.2 Structures

Where works are required to extend into the foreshore, new structures, and/or alterations, replacement, and removal and demolition of existing structures will be required to accommodate the proposed Shared Path. Details of the structures to be located on land following the reclamation of the CMA are provided in Mr Kellow's s42A report.

The works within the CMA will include:

- The replacement of parts of existing seawalls and the construction of new curved seawalls with either a single, double or triple curved seawall face
- The placement of new rock revetment, and replacement or upgrade of existing rock revetment

- Construction of new and replacement and additions or alterations to existing beach access structures to provide access to beaches and the CMA

- Three boat ramps will be rebuilt in their existing locations at Point Howard, York Bay and Mahina Bay (albeit now parallel to the seawall)

- Extension of existing culverts to accommodate the increased width from the Shared Path and supporting protection structures

- Construction of a safety barrier on the seaward edge where the fall height exceeds 1 m

4.2.1 Seawalls

For most of the Shared Path route, the proposed works will require the replacement of existing coastal protection structures including seawalls, concrete blocks and gabions and rock revetments (collectively referred to as seawalls), with larger structures.

The application states that seawalls already exist along 87% of the project area; however, most do not allow space for a Shared Path next to the road and many are not deemed acceptable to provide a safe barrier against storm surges into the future. A length of approximately 3.1 km (71% of the project length) will require replacement or rebuilding of seawalls to accommodate (and protect) the Shared Path. The remaining length of 1.3 km (29% of the project length) including the curved seawall at southern York Bay and existing revetment in southern Sunshine Bay will remain unchanged. The only new sections of seawall to be constructed on 'unmodified' coastal edge occur along Lowry Bay beach, Sunshine Bay beach and at the southern end of Mahina Bay. This represents a maximum of 300 m of new seawall in total. After the project is completed approximately 93% of the project length will contain a seawall.

For the length of new seawall that extends beyond the existing seawall toe, approximately 1.8 km (or 41% of the project length) will be below the MHWS level and therefore within the CMA. The configuration of proposed seawall types along the project length and their percentage of the total project length are presented in Table 2 below.

Table 2: Configuration of proposed seawall types across proposed Shared Path (from the Coastal Physical Processes Assessment attached as Appendix E of the application AEE)

Seawall type	Seawall type - detailed	Total length (m)	Percentage of total project length (%)
Curved-stepped concrete wall	All	2647	59.6
	Single step	*190*	*4.3*
	Double step	*2128*	*47.9*
	Triple step	*225*	*5.1*
	Double/Triple	*104*	*2.3*
Revetment	-	434	9.7
Beach access	All	64	1.5
	Mini Steps	*17*	*0.4*
	Steps	*27*	*0.6*
	Ramp	*20*	*0.5*
No seawall works	-	1298	29.2
	Existing seawalls	*1004*	*22.6*
	No seawall	*294*	*6.6*
Total project length	-	4443	100

Further details on the seawall types proposed and typical cross-sections can be found in the Design Features Report (Appendix J of the application AEE). The design and characteristics of these structures are summarised below.

Of the proposed seawall types, three types will occur within the CMA: double curved seawall; triple curved seawall; and revetment. Sections requiring the use of single curved seawall are located wholly outside of the CMA. No seawalls are proposed to extend within the subtidal zone.

Broadly, two variants of seawall are proposed:

- A concrete seawall with a single, double or triple curve face
- A rock revetment structure

Curved seawall

A double curved wall is the most widespread type of curved concrete seawall proposed for the project, although variants include single and triple curved seawalls.

All curved seawalls will have a flat top that forms the base of the Shared Path, and a single, double or triple curved face that acts as a giant step, with a 900 mm tread and an 800 mm riser.

The height of proposed curved seawalls (and therefore the number of curves) in the respective bays is determined by the change in level between the road and the foreshore. For example, in southern Lowry Bay, where the beach is

effectively at grade with the road, the curved seawall will be a single curve. Triple curved walls are proposed at the northern end of Lowry Bay, York Bay and at Windy Point and may be used in other areas where there is a considerable drop from the road edge to the foreshore. All other curved seawalls will be double curved and of the same scale and dimensions as the existing seawall at the south end of York Bay. The final configuration of seawalls at each location will be confirmed as part of the detailed design process.

Rock revetment

Proposed revetment structures consist of a top double layer of large rocks (the primary armour), with an average diameter of 500 mm overlaid onto smaller rocks and will generally slope down towards the water at a gradient of 1V:2H. A geotextile under-layer will be placed between the large rocks and backfill material to prevent fines escaping and minimise slumping. The interface between the revetment and the Shared Path varies according to the structural requirements of the wall and the beach location and may include a concrete cantilever wall supporting the Shared Path. The top of the wall will be 300 mm above the Shared Path. The revetment is at grade with the top of the wall and is level for 1.5 m before it slopes down to the water.

The top of the revetment will generally be 500 mm above the Shared Path and level for 1.5 m before it slopes down to the water.

The cantilever wall will be designed as a standalone element i.e. the wall will not be reliant on the seaward side rock armouring to retain the road pavement and Shared Path to allow for future adaptability of revetments in response to sea level rise.

The application states the design of the revetment structures will be refined during detailed design according to the conditions at each site, including the crest height, rock sizing and placement requirements, slope grade and toe detail, but is not expected to encroach any further than what is presented in Preliminary Design Plans (and the application). Given concerns about the quality and quantity of in-situ material, being that excavated to form foundations for new seawalls, and local availability of suitable rock, the application describes revetment rock will likely be brought in from other regions. The final selection of rock material for the revetment will be addressed by the contractor.

Revetment structures are limited to rocky shore areas where the applicant has determined it was desirable to maintain a ‘non-concrete’ or ‘non-seawall’ shoreline and where additional protection was required to reduce wave overtopping. Proposed revetments for the most part replace or upgrade existing revetments at Point Howard, York Bay and Sunshine Bay. The only new revetment is located at the south end of Mahina Bay, over a rock platform that extends across the Mahina/Sunshine Bay headland.

Further detail on the total footprint of structures required to accommodate the Shared Path is presented in section 4.2.2 below.

4.2.2 Permanent reclamation or occupation of the CMA

The overall footprint or extent of additional occupation of the CMA attributed to new or replacement structures identified in section 4.2.1 is 5,500 m^2 (0.55 ha). This includes small areas of the project, totalling approximately 300 m^2 (0.03 ha), where replacement seawalls will be landward of the existing seawall toe, resulting in a gain of foreshore (or de-reclamation). Approximately 3,000 m^2 (0.3 ha) of this additional occupation is located within the CMA.

The total occupation of new or replacement structures, identified by structure type, is presented in Table 3 below.

Table 3: Occupation of CMA by structures required to accommodate Shared Path

Structure/feature	Footprint above MHWS (ha)	Footprint below MHWS (ha)	Maximum encroachment (m)	Total (ha)
Curved seawall (single, double or triple curved)	0.20	0.15	3.4	0.35
Revetment*	0.05	0.15	6.6	0.19
Beach access (steps and ramps)	0.004	0.003	3.5	0.01
Total	0.25	0.30	-	0.55

* Includes the transition zone between a revetment and curved seawall

The total occupation of CMA by structures, broken down on a bay by bay basis, is presented in Table 4 below[6].

Table 4: Occupation of CMA by structures required to accommodate Shared Path for each bay

Location	Seawall (all curved types) footprint below MHWS (m^2)	Revetment footprint below MHWS (m^2)	Beach access structures below MHWS (m^2)	Total footprint inside CMA (m^2)
Point Howard/Sorrento Bay	260	370	20	**650**
Lowry Bay	250	0	12	**260**
York Bay	130	230	2	**360**
Mahina Bay	60	450	0	**510**
Sunshine Bay	320	420	2	**740**

[6] This information was provided by Caroline van Halderen on behalf of the applicant on the 17th April 2020.

Windy Point	470	0	0	**470**
TOTAL	**1490**	**1470**	**36**	**3000**

4.2.3 Temporary occupation of the CMA

During the construction phase there is expected to be an additional buffer or footprint to allow space for construction works to be undertaken. This will be in the order of 5 m from the proposed toe of the structure for curved seawalls and no more than 3 m from the proposed toe of revetment structures. With a maximum continuous length of seawall of 20 m able to be constructed at any one time the total temporary occupation to allow construction works at any specific site will be approximately 100 m^2 for curved seawalls and 60 m^2 for revetments. It is noted that the application describes more than one construction site may be operating in each bay. The total lengths of construction at any one time will be confirmed as part of the construction methodology once a contractor has been confirmed.

In total the construction footprint will occupy approximately 15,000 m^2 (1.5 ha), of which 12,000 m^2 (1.2 ha) will be located within the CMA.

4.2.4 Beach access structures and boat ramps

The application describes that a total of 17 beach access structures are proposed. Generally, a minimum of two beach access structures will be constructed at each beach area. A number of variations of beach access structures and supporting design features are proposed depending on the type of seawall. In summary, beach access options include:

- Standard steps
- Mini steps
- Boat ramps

Mini steps are a variation of standard steps and are proposed at intervals between the standard steps to achieve additional access to the beach without encroaching unnecessarily onto the CMA.

No new boat or kayak access is proposed. The existing boat ramps at Whiorau Reserve and Windy Point will be retained and the existing boat ramps at Point Howard Beach, York Bay and Mahina Bay will be replaced, albeit they will now be parallel to the seawall.

Maximum boat ramp grades have been set at 1V:4H and are proposed in locations where the wall height is very low having regard to access and safety, and beach encroachment. A corrugated texture will be added to the concrete surface of boat ramps to shed sea water and reduce slipperiness.

The exact location and design of beach access structures will be confirmed during detailed design.

4.2.5 Extension of stormwater outfalls

Existing outfalls within the Project area may require culvert extensions or the provision of fish passage. The applicant's Fish Passage Requirements Assessment (Appendix B of the application AEE) has identified that 14 existing outlets require fish passage either because fish have been recorded upstream or assessment has determined existing conditions provide suitable habitat for freshwater fish. Of the 14 existing outlets, three are seaward of the proposed seawall and will not require any extension, a further three are currently elevated above existing beach levels, with two of these outside of MHWS.

In total 11 culvert outlets will require modification to accommodate the Shared Path. For the most part modification is expected to require extension of the outlet to accommodate the additional width. Culvert extensions will comprise lengthening existing culverts using standard couplings and connecting onto new plastic pipes that will be tied into the seawall or revetment structure at the outlet end.

Solutions to allow for fish passage will be site-specific as it will depend on the relative level of the outlet and seawall design at each location. Design solutions may include the construction of a short concrete ramp or the use of mussel spat rope.

The applicant states that fish passage requirements will be resolved through detailed design under the supervision of a suitably qualified freshwater ecologist.

4.2.6 Safety barriers

At the time of writing this report the applicant has not confirmed the design of the safety barriers, their locations or the height of the barriers. The inclusion of safety barriers in the application only occurred after a further information request following peer review of the application by Mr David Wanty. The further information request related to safety and Building Act requirements for barriers and concern about scope if safety barriers were added to the design at a later date.

The applicant confirmed in *Memorandum 4* (received 19 September 2019), prior to public notification, that seaside barriers would be included along sections where the fall height is greater than 1 m. *Memorandum 4* specified that barriers would be 1100 mm high. After the submission period *Memorandum 5* (received 15 June 2020) set out further information on barrier heights and concluded that current best practice for cycleways requires a 1400 mm barrier but acknowledged that this height may be unpalatable to the local community. *Memorandum 5* goes on to suggest that a risk assessment be carried out as part of detailed design to identify the hazards, determine the likely number of vulnerable users and likely consequences, and from this consideration determine appropriate barrier height requirements.

Memorandum 5 also added additional sections of barrier that were not identified pre-notification. The sections of path where a barrier was proposed at the time of public notification was:

- Gill Road to Whiorau Reserve: ST 1790 - 1955 (3.5 m wide path)
- York Bay north: ST 2330 - 2420 (3.5 m wide path)
- Between Mahina and Sunshine Bay: ST 3530 - 3680 (3.5 m wide path)
- Windy Point: ST 5050 - 5395 (3.5 m wide path)

Memorandum 5 included an additional 200 m section between ST 1260 and ST 1460 (southern Lowry Bay).

There are also sporadic sections of path where the fall height is or may be over 1 m but the sections are so short that erection of a barrier is not proposed as the risk of spearing or collision hazards for such small sections is greater than the risk from the fall height. These sections are set out in *Memorandum 5*.

While safety barriers are located outside of MHWS their addition has potential effects on natural character and therefore requires consideration from GWRC. The concerns arising from the introduction of a safety barrier from an operational safety, recreation amenity and landscape and urban design perspective are covered by Mr Kellow in the s42A report on behalf of HCC Consents.

4.3 Beach nourishment

The proposal requires beach nourishment at Point Howard, Lowry Bay and York Bay to remedy the loss of high-tide beach and associated recreation amenity at these locations. A total of approximately 6,000 m^3 of material will be required for beach nourishment, distributed across the respective bays. The beach nourishment dimensions are presented in Table 5 below.

Table 5: Design dimensions of beach nourishment (from Beach Nourishment Design Report attached as Appendix F of the application AEE)

Bay	Effective beach length (m)	Linear length of beach nourished (m)	Volume of nourishment material to be imported (m^3)
Point Howard	120	80	1,600
Lowry Bay	450	160	3,200
York Bay	150	80	1,200
Total	**720**	**320**	**6,000**

The application describes it is likely that the Hutt River will be the source of material for beach re-nourishment given its proximity to the project and relatively similar composition to natural beach sediments found across the Eastern Bays[7]. However, alternative sources include beaches to the south of the

[7] The application includes reference to correspondence from Sharyn Westlake on behalf of GWRC Flood Protection who has confirmed that use of the GWRC Flood Protection extraction consent to acquire beach nourishment material is acceptable in principle.

project, material dredged from Wellington Harbour and material from quarries outside of the Wellington Region.

The applicant has also committed to one 'top-up' of beach nourishment material at each beach location should monitoring of beach nourishment determine that beach nourishment has not been successful. No further beach nourishment is proposed as part of the proposal.

4.4 Earthworks above mean high water springs

The applicant has confirmed that consent for earthworks above MHWS is sought on a conservative basis and that earthworks footprints will not be known until detailed design has been completed.

Earthworks above MHWS will be associated with excavation for new and replacement structures and stripping of topsoil in certain locations (such as Whiorau Reserve) to enable construction of the Shared Path.

Earthworks will include associated discharges of sediment laden water to land where the discharge may enter coastal water.

5. Construction programme and methodology

This section provides a summary of the indicative construction methodology across the project, outlining the anticipated nature, scale and duration of construction activities.

5.1.1 Construction programme

The application describes construction will likely be undertaken over a six-year period (subject to funding) and staged, with the intent to complete each bay in totality before moving on to the next one, to provide consistency between the bays.

Currently it is proposed to complete Windy Point first, followed by Point Howard and Sorrento Bays, and then Lowry/Whiorau Bay. These sections will then be followed by the other bays. The staged implementation is subject to change following further discussions with HCC and confirmation of funding availability.

Each section is likely to take about 3-6 months to complete however this is dependent on bay length and complexity of the works per bay.

A more detailed construction programme for the project will be developed during the detailed design stage. This programme will be incorporated into the Construction and Environmental Management Plan (CEMP) to be prepared as a condition of consent.

5.1.2 Construction methodology

An indicative construction methodology has been provided by the applicant in the Design Features Report. The applicant describes the project's construction methodology is indicative and has been provided to establish an envelope of actual and potential effects on the environment. The final construction

methodology will be developed by the contractor (once engaged) as part of the detailed design process.

The below sections summarise the construction methodology proposed in the Design Features Report.

Removal and demolition

- Installation of a protective barrier between the construction site and tidal area to isolate the construction areas from the marine environment using bunds or other devices

- Use of an excavator to break down the existing seawall as necessary to allow for construction of the new wall

- Demolition waste (concrete, non-native bulk fill, reinforcing) will be taken to an appropriate landfill site for disposal.

Seawall construction

Excavation within the CMA will be necessary to embed the seawall toe into the substrate. This will occur for the construction of the single, double and triple curve walls and the cantilever retaining walls and associated beach access structures, including boat ramps.

The applicant has adopted in-situ concrete pouring to form the seawalls rather than pre-cast construction. In summary the proposed seawall construction methodology includes:

- The construction zone will be clearly demarcated to include a minimum working distance beyond the toe of the new seawall to allow for excavation of the bed to construct and bury the seawall edge and to minimise the occupation on adjacent areas

- Installation of a protective barrier between the construction site and tidal area to isolate the construction areas from the marine environment using bunds or other devices. This is likely to include some form of bund or shuttering system that will effectively contain and isolate the construction area from the incoming tide until construction is completed

- Following completion of the foundations, the lower level of the seawall will be poured on site in sections using shaped formers for the curved wall or vertical formers for the cantilever wall. Both seawall types will be formed in 'lifts' using shaped formers to aid construction and minimise time in the intertidal zone

- Textures will be cast into the in-situ concrete through the use of form liners or void formers

- Following the pouring of the upper section of wall, the surface will be prepared and sealed with asphalt, concrete edging and concrete kerb separator blocks installed

- Other structures, such as lighting, signage and bus shelters will be installed.

Revetment construction

Excavation within the CMA will also be necessary to key-in the base of the revetments.

In summary, construction of the revetment will include:

- Preparing the site, where necessary, by excavating a trench to build a reinforced cantilevered wall

- Pouring concrete in situ in much the same way as the foundations of the seawall. Where the existing seawall is still in good condition, a cantilevered wall may not be necessary

- Structural backfill will be placed behind the cantilevered wall on the road side to form the base of the Shared Path

- Where required, structural backfill material will be placed at the base of the new seawall (replacement of the material removed during the construction of wall footings)

- Any backfill material will be covered with a geotextile membrane to prevent fines escaping

- Rock will be placed against the supporting cantilevered wall in accordance with revetment design standards.

5.1.3 Sediment control

The following measures are proposed to keep sediment generation to a minimum during construction:

- Use of crushed material that is clean of fines in the construction of the Shared Path

- Use of construction materials (backfill) that does not contain fines smaller than sand particles to promote quick settling of suspended particles

- Excavation in areas where it is predominantly gravel or sandy beach (as opposed to the rocky shore) to be undertaken using methods that cause the least amount of sediment to be released from the construction area

- Use of bunding or shuttering to contain and isolate the construction area from the incoming tide to allow works to be undertaken in the 'dry'. Bunds could be built from clean beach gravel sourced from the excavated area or sheet piling could be installed.

The Design Features Report describes alternative sediment control measures will be implemented where the construction extends into rocky shore habitats or works occur within or close to the subtidal zone. These may include sand filled geotextile containers or tubes that can be easily removed following completion of the works.

5.1.4 Dewatering Measures

Given the close proximity to the coastal environment, the excavations will be heavily influenced by tidal flows. Dewatering of excavations will be required to remove groundwater and tidal water (from overtopping excavations) from the work area to enable construction of the foundations for the seawalls and revetments.

Dewatering will typically be carried out in the following manner:

- Where possible, the amount of water entering the excavation will be minimised by diverting surface water from the road away from excavations by using sand bags, and directing the water to the stormwater network
- A dewatering spear and a pump system will be installed in the excavation
- Dewatered water will generally be pumped to a settlement tank where it will be retained for the length of time required for sediment to settle
- Water will be removed from the top of the settling area, where water is cleaner and a float will be used to keep the intake off the bottom
- A filter will be used on the pump inlet to help minimise sediment in the discharge
- Sludge and sediment from the bottom of the tank may be removed by a sucker truck or excavator and disposed of off-site
- All water from excavations will be treated for sediment (and other contaminants) before being discharged
- Where dewatered water is expected to contain contaminated material or sludge is present, sampling from the area of the excavation will be undertaken to identify concentrations of contaminants present. This will help to determine whether any further filtration or specific treatment of the discharge is required
- If sampling confirms contaminants are present, the water will be contained within the excavation and pumped to a container and once settled out the sediment or sludge will be removed by sucker truck or

excavator and disposed of off-site, or discharged to trade waste for treatment.

Where the works are adjacent to a contaminated site, such as the Sunshine Beach Garage then groundwater will be sampled in advance of construction and specialist methods to treat the discharges, such as flocculation, a sand filter, or hydrocarbon interceptor will be implemented as required during construction activities. It is likely that any associated discharge of dewatered water at this location will be directed to trade waste.

Investigations to confirm soil and water contamination will be undertaken during the detailed design stage at which time the construction and dewatering methodologies will be confirmed.

5.1.5 Pouring and management of cementitious products

The applicant proposes to implement specific controls for the pouring of concrete, including:

- Pouring concrete in dry conditions, or where this is not possible, containing and treating the cement contaminated water before pumping it to the wastewater (trade waste) network for treatment
- Where pumping to trade waste is not possible, containing the contaminated water and pumping to a treatment structure (such as a container) where the water can be treated to a level suitable to enable a discharge to the receiving environment
- If discharging suitably treated water to the environment (either directly or indirectly via the stormwater network) is considered appropriate then this is to be done at high-tide when there is the greatest potential for dilution
- Monitoring the pH of any water on site to ensure no contaminated water is entering the receiving environment.

5.1.6 Beach nourishment methodology

The proposed methodology for beach nourishment and the beach nourishment process can be found in the Beach Nourishment Design Report (Appendix F of the AEE). In summary, the methodology for beach nourishment includes:

- Use of an excavator to push in-situ beach material seaward to form a flat bench to protect the construction zone from tidal influence and overtopping
- The excavator will initially operate along the crest of the existing wall, although once the bench is formed, machinery could work along the upper part of the beach adjacent to the existing seawall during low tide periods

- Beach nourishment material is likely to be transported to site by truck. The sand could either be:
  - end tipped to the foreshore over the edge of the wall
  - placed on the road/path and then redistributed by hydraulic excavator
  - unloaded from the truck by hydraulic excavator with direct placement onto the foreshore

- Sand will be placed at the widest part of the beach on the landward side of the high-tide bench and only the amount of sand that can be placed within that day will be delivered[8]

- Sand will be naturally transferred down and along the beach face at the rate of incident wave conditions, with the net result being a slight increase in levels along the beach area.

Barging could be used as an alternative to trucking and would bring in the sand by sea. This is likely to need relatively shallow draft barges coming into the bay and landing on the beach at high-tide, with unloading of the barge by hydraulic excavator. The remainder of the process of distributing sediment along the beach area would be similar to that outlined above.

An alternative method for placement of material has also been proposed that would deliver the beach nourishment material in smaller volumes over two or three treatments potentially improving the stability of the sand by allowing them to settle. The final methodology will be confirmed by the contractor.

Control structures are not proposed given the beaches are largely headland controlled or within embayed areas so limited sand transfer is expected.

5.1.7 Construction Environmental Management Plan

A CEMP will be prepared to support and guide the construction of the project. The CEMP will include the environmental management and monitoring procedures to be implemented during the project's construction phases. The CEMP outlines details of the 'how, who, what, where and when' in respect of the environmental management and mitigation measures to be implemented. The CEMP is a condition of the consent and will be developed as appropriate once a contractor is appointed.

The CEMP will be developed in consultation with the relevant project experts including ecologists, landscape architects and coastal engineers, and will incorporate or refer to the following management plans:

- Landscape and Urban Design Plan (LUDP)

- Bay Specific Urban Design Plans (BSUDPs)

[8] It is noted that this activity may need to be done several times during the construction of the path and immediately prior to importing beach sediment, as wave action is likely to move the material back up the beach face.

- Beach Nourishment Plan (BNP)
- Little Penguin Management Plan (LPMP)
- Traffic Management Plan (TMP)
- A plan for works within 100 m of a Shoreline Forager nest
- Seawall and Revetment Habitat Plan (SRHP); and
- Habitat Enhancement Plan (HEP)

In the event a CEMP is submitted in part or on a staged basis the CEMP will only incorporate or refer to the management plans relevant to that part or stage.

5.1.8 Management plan approach

Broadly, there will be one overarching CEMP, under which sits a series of activity specific environmental management plans as identified above.

All management plans require certification by GWRC (and HCC Consents where relevant) prior to works commencing on site, or in the event a staged approach is implemented, prior to works commencing on the relevant stage.

All management plans will provide the overarching principles, methodologies and procedures for managing the effects of the construction of the project to achieve the environmental objectives, outcomes and performance standards required by the respective management plans.

The applicant has proposed an adaptive management approach to manage the environmental effects of the project. The adaptive management approach will be implemented through the development and certification process of each management plan, which will provide a feedback loop for lessons learned in the initial or earlier stages of works which can be implemented in the following stages (thus ensuring the best practicable option is used at each stage of works).

6. Statutory reasons for requiring resource consents

Under sections 9, 12, 14 and 15 of the Resource Management Act 1991 (the Act) the proposed activities are governed as follows:

- Section 9(2) and (3) – Restriction on the use of land
- Section 12(1) – Restrictions on certain uses of the foreshore or seabed
- Section 12(2) – Restrictions on occupying the foreshore or seabed
- Section 14(2) – Restrictions on the taking, using, damming, or diverting coastal and ground water
- Section 15(1) – Restrictions on the discharge of contaminants into water and onto land

The activities proposed by the applicant are not permitted as of right under these sections of the Act or by the regional plans; therefore, resource consent is required.

6.1 Status of Proposed Natural Resources Plan

The Proposed Natural Resources Plan (PNRP) was publicly notified by the Council on 31 July 2015. All rules in the PNRP have immediate legal effect from the date of notification under section 86B(3) of the Act.

The Council's decision on the PNRP was publicly notified on 31 July 2019. All rules in the PNRP (decisions version) have immediate legal effect under section 86B(1) of the Act.

As the application was lodged after 31 July 2015 but before 31 July 2019, the notified PNRP 31 July 2015 is relevant to determining the resource consents required, their activity status and the notification decision for this application.

However, in relation to the substantive assessment of the proposal under section 104(1)(b) of the Act, provisions of the PNRP as notified on 31 July 2015 have been superseded by the decisions version of the PNRP as notified on 31 July 2019 and subsequently the appeals version following orders from the Environment Court. Therefore, in relation to the substantive assessment prescribed by s104(1)(b), and the 'gateway test' for 104D(1)(b) given the proposal is assessed as a non-complying activity, this substantive assessment is considered under the provisions of the PNRP appeals version updated for consent order dated 8 October 2020.

6.2 Activity status

Table 6 (Operative Regional Coastal Plan) and Table 7 (PNRP) below outline the resource consents required for the proposal.

6.2.1 Operative Regional Coastal Plan

Table 6: Operative Regional Coastal Plan rules assessment

Rule	Assessment
Reclamation/occupation of the CMA	
Rule 4 Other activities reclaiming or draining foreshore or seabed outside Areas of Significant Conservation Value Any activity reclaiming or draining foreshore or seabed: • that is not specifically provided for in Rules 1, 2, 3, or 5 or • which cannot meet the requirements of those Rules; is a Discretionary Activity.	Construction of the proposed seawalls and revetment in some areas of the Shared Path is not provided for in Rules 1, 2, 3 or 5. The proposed Shared Path includes areas of reclamation[9] where there is currently no seawall or revetment, and where the width of the toe of the proposed revetment extends further than 2 m seaward from the toe of the existing revetment above the line of MHWS. Reclamation is not otherwise provided for and is therefore assessed as a **Discretionary Activity**.
Removal and demolition of structures	
Rule 14 Removal or demolition of structures Any removal or demolition of any structure or any part of a structure that is fixed in, on, under, or over any foreshore or seabed, including any associated disturbance of foreshore or seabed, which is not a permitted activity under Rule 7 and can comply with conditions is a controlled activity.	Removal or demolition of structures cannot comply with the conditions of Rule 7 as the disturbance threshold will be exceeded. However, removal or demolition of structures will comply with prescribed conditions of Rule 14 and therefore the demolition and removal of any structure(s) is a **Controlled Activity**.
Construction of new structures	
Rule 16 Occupation by structures of land of the Crown or any related part of the coastal marine area	The occupation of space in the CMA can comply with all relevant conditions and is therefore a **Controlled Activity**.

[9] RCP definition: Reclamation and Reclaiming mean the permanent infilling of the foreshore or seabed with sand, rock, quarry material, concrete, or other similar material, where such infilling results in a surface (usable for any purpose) which is greater than 2 metres in width above the level of MHWS, and includes any embankment, but does not include any structure above water where that structure is supported by piles, or any infilling where the purpose of that infilling is to provide beach nourishment.

The occupation by any lawful structure of any land of the Crown or any related part of the coastal marine area, is a Controlled Activity provided that activity complies with conditions	
Rule 18 Structures more or less parallel to mean high water springs Any activity involving the erection of a structure or structures, when established on the foreshore or seabed would extend more than 1000 metres in length, more or less parallel to the line of mean high water springs (including separate structures which incrementally total 1000 metres, or more contiguously); and (3) is proposed for an area of the coastal marine area outside any Area of Significant Conservation Value;	Proposed structures are solid, will extend more than 1000 metres in length and are proposed for an area outside of an Area of Significant Conservation Value. Accordingly, proposed structures are considered as a **Discretionary Activity**.
Rule 25 All remaining activities involving the use and development of structures outside any Area of Significant Conservation value Any activity involving the use or development of any structure or any part of a structure fixed in, on, under or over foreshore or seabed outside an Area of Significant Conservation Value: • that is not specifically provided for in Rules 6 to 24 or Rules 26 or 27; or • which cannot meet the requirements of those Rules; is a Discretionary Activity provided it shall comply with conditions.	The construction of the new areas of seawall and rock revetment and the replacement of existing seawalls and rock revetment, including all associated disturbance of foreshore and seabed during construction cannot meet the requirements of Rules 6 to 24 or Rules 26 or 27 and therefore consent is required as a **Discretionary Activity**.
Destruction, damage, or disturbance of foreshore or seabed	
Rule 40 Other activities involving the destruction, damage, or disturbance of foreshore or seabed outside Areas of Significant Conservation Value Any activity involving the destruction, damage, or disturbance of any foreshore or seabed:	The construction of the rock revetments and proposed seawalls will involve the disturbance of the foreshore and seabed. However, the disturbance of the foreshore and seabed during construction of these structures is provided for under Rule 25. There are no activities within Rules 28-39 associated with the proposal that are not provided for under Rule 25 given all disturbance of foreshore or seabed is associated with the construction of proposed seawall structures or driving on the beach which are covered under the activity specific rules (Rule 25 and Rule 83).

(1) that is not specifically provided for in Rules 28 – 39 or Rule 43 or any other rules in this Plan; or (2) which cannot meet the requirements of those rules;	
Beach re-nourishment	
Rule 45 Beach nourishment The deposition of any sand, shingle, shell, or other natural material directly onto any foreshore which: (1) is for the purpose of combating beach or shoreline erosion or improving the amenity of value of the foreshore; is a Controlled Activity provided it complies with standards.	The deposition of sand, shingle, shell, or other natural material for beach re-nourishment can comply with prescribed conditions and is associated with combating beach or shoreline erosion and improving the amenity value of the foreshore. Therefore, proposed beach re-nourishment is a **Controlled Activity**.
Discharges to coastal water	
Rule 53 Stormwater Any discharge of stormwater onto land or into water in the coastal marine area from any motorway, road, street, railway line, roof, yard, paved surface, breakwater, jetty, wharf, boat shed, or any other structure is a Permitted Activity, provided it complies with conditions.	Discharges of operational stormwater from Marine Drive will not change as a result of the Shared Path.
Rule 61 Other activities involving discharges to land and water outside Areas of Significant Conservation Value Any discharge of a contaminant or water onto land or into water in the coastal marine area, outside any Area of Significant Conservation Value: • not provided for in Rules 53-60 or 62 or any other rules in this Plan; or 138 Discharges to Land and Water or • which cannot meet the requirements of those rules;	The discharges of sediment, and de-watered water from construction activities, to the CMA during construction are not provided for by any other rule in the RCP and are therefore assessed as a **Discretionary Activity**.

is a Discretionary Activity.	
Discharges to air	
Rule 65 Construction and maintenance of structures Any activity which results in the discharge of dust, particulate matter, or other contaminants to air in the coastal marine area which: • is associated with the construction, maintenance, repair, alteration or reconstruction of a structure; is a Permitted Activity provided the activity complies with conditions.	Discharges to air during construction works can comply with specified conditions and the general standards and therefore are assessed as a **Permitted Activity**.
Driving on the beach	
Rule 83 Motor vehicles, motorcycles, trailers and land yachts on beaches Within the following areas: • the foreshore from Lyall Bay at NZMS 260 R27 599 844 to Point Arthur at NZMS 260 R27 677 872; the driving or riding or parking of any motor vehicle, motorcycle, trailer, or land yacht for any purpose is a Discretionary Activity (restricted) with exceptions for certain uses.	The proposal does not fall within any excluded uses. Accordingly, consent is required for the use of machinery and motor vehicles along the Eastern Bays foreshore during construction of the project as a **Restricted Discretionary Activity**.

6.2.2 Proposed Natural Resources Plan

The relevant provisions of the Proposed Natural Resources Plan include the associated occupation of space and any disturbance, deposition, discharges and diversion of coastal waters required during construction and maintenance activities and therefore independent assessment of these activities is not required.

Table 7: Proposed Natural Resources Plan (Notified Version July 2015) rules assessment

Rule	Assessment
Discharges to coastal water	
Rule R48 Stormwater The discharge of stormwater into water, or onto or into land where it may enter a surface water body or coastal water, from an individual property is a permitted activity, provided conditions are met.	The applicant considers the discharge of stormwater from the road a permitted activity under Rule R48 of the PNRP. The applicant reaches this conclusion on the basis that roads are contiguous and under one owner and therefore the entire road network within a district would be considered one property. I do not agree with the applicant's assessment on the basis that the proposal extends through private and publicly owned property that is not road reserve. However, I do agree that consent for operational discharges of stormwater due to use of the path is not required. This is because there is no change to the HCC stormwater network as part of this consent. Discharges from the HCC stormwater network will continue to be managed by the existing global stormwater consent managed by Wellington Water.
Rule R68 All other discharges The discharge of water or contaminants into water, or onto or into land where it may enter water, that is not: (a) permitted by Rules R42, R43, R44 or R45, and (b) is not provided for by Rule R67 or any other rule in this Plan	Rule 42 permits discharges of contaminants to land, where the discharge enters a surface water body or coastal water. However, dewatering at certain locations may be from areas considered to be 'contaminated land' due to residual effects of the nearby gas station at Sunshine Bay and may not comply with Rule R42(c). On a conservative basis, the discharge of dewatered water is assessed as a **Discretionary Activity** under Rule R68.
Rule R142 Any other take and use of water The take and use of water that would otherwise contravene sections 14(2) or 14(3) of the Resource Management Act 1991 and is not a permitted, controlled, restricted discretionary, discretionary, non-complying or prohibited activity is a discretionary activity.	Dewatering cannot comply with Rule R140 in proximity to Sunshine Bay Garage as the land and foreshore may contain in-situ contaminants (contaminated land). Therefore, the dewatering activity requires consent as a **Discretionary Activity**.
Earthworks and vegetation clearance	
Rule R101 Earthworks and vegetation clearance	The proposal is likely to exceed the earthworks requirements under Rule R99. The exact areas of earthworks will be determined during the detailed design. As the proposal may exceed the earthworks

The use of land, and the discharge of stormwater into water or onto or into land where it may enter water from earthworks or vegetation clearance that is not permitted by Rule R99 or Rule R100 is a discretionary activity.	area of 3,000m^2 per property per 12 month period under Rule R99 the proposal is assessed as a **Discretionary Activity**.
Removal or demolition of structures	
Rule R153 Removal or demolition of a structure The removal or demolition of a structure or part of a structure in the coastal marine area, including any associated: (a) disturbance of the foreshore or seabed, and (b) deposition in, on or under the foreshore or seabed, and (c) discharge of contaminants, and (d) diversion of open coastal water that is not permitted by Rule R152 and is not a discretionary activity under Rule R172 is a restricted discretionary activity.	Removal and demolition of structures cannot comply with Rules R149, R150 and R152 as the structures are seawalls and the depth of excavation to remove structures may exceed 0.5m in the Hutt Aquifer Protection Zone so cannot meet the coastal management general conditions. Therefore, the removal or demolition of structures is a **Restricted Discretionary Activity**.
New structures and replacement of structures (including temporary structures)	
Rule R155 New temporary structures A new temporary structure and the associated use of the structure in the coastal marine area, including any associated: (a) occupation of space in the common marine and coastal area, and (b) disturbance of the foreshore or seabed, and (c) deposition in, on or under the foreshore or seabed, and (d) discharge of contaminants, and (e) diversion of open coastal water	New temporary structures associated with construction and replacement of seawalls, revetments and beach access structures will be in place longer than 31 days in some locations and excavation associated with their installation may exceed 0.5m in the Hutt Aquifer Protection Zone so cannot meet the coastal management general conditions. Temporary structures associated with construction activities are therefore a **Restricted Discretionary Activity**.

that is not permitted by Rule R154 is a restricted discretionary activity.	
Rule R161 New structures, additions or alterations to structures outside sites of significance A new structure, addition or alteration to a structure and the associated use of the structure outside a site or habitat identified in Schedule C (mana whenua), Schedule F4 (coastal sites), Schedule F5 (coastal habitats) or Schedule J (geological features) in the coastal marine area, including any associated: (a) occupation of space in the common marine and coastal area, and (b) disturbance of the foreshore or seabed, and (c) deposition in, on or under the foreshore or seabed, and (d) discharge of contaminants, and (e) diversion of open coastal water that is not permitted by Rule R156 or a controlled activity under Rule R157 or a restricted discretionary activity under Rule R155 or prohibited under Rule R159 is a discretionary activity.	Additions and alterations to seawalls such as the safety barriers on the edge of proposed seawalls, alterations to stormwater outlet structures and beach access structures including boat ramps are not provided for under rules R155, R156 or R157 and are to be placed outside areas identified in Schedules F4 and F5. Therefore, required additions and alterations to seawalls require consent as a **Discretionary Activity**.
Rule R166 Seawalls outside sites of significance – discretionary activity The placement of a new seawall, or the addition to or alteration or replacement of an existing seawall, and the associated use of the structure outside a site or habitat identified in Schedule C (mana whenua), Schedule F4 (coastal sites), Schedule F5 (coastal habitats) or Schedule J (geological features) in the coastal marine area including any associated: (a) occupation of space in the common marine and coastal area, and (b) disturbance of the foreshore or seabed, and	Some areas of replacement seawall works will fall within the footprint of the existing seawall and will be able to comply with the disturbance thresholds in the general conditions. However, excavation works with these replacements will disturb the foreshore or seabed to a depth greater than 0.5m in the Aquifer Protection Zone. All seawalls within the project footprint are located outside of Schedule C, F4 and F5 areas. Additions, alterations and replacement of existing seawalls that extend outside the footprint of the existing seawall and all new areas of seawall are considered a **Discretionary Activity**.

(c) deposition in, on or under the foreshore or seabed, and (d) discharge of contaminants, and (e) diversion of open coastal water that is not a controlled activity under Rule R165 is a discretionary activity.	
Driving on the beach	
Rule R198 Motor vehicles inside sites of significance The disturbance of the foreshore or seabed from motor vehicles inside a site or habitat identified in Schedule C (mana whenua), Schedule E4 (archaeological sites), Schedule F2c (birds-coastal), Schedule F4 (coastal sites), Schedule F5 (coastal habitats) or Schedule J (geological features) in the coastal marine area, that is not permitted by Rule R196 or Rule R197 or prohibited under Rule R199, is a non-complying activity.	Machinery and construction vehicles associated with construction on the Shared Path are required to drive on the beach in areas of the foreshore identified in Schedule F2c. Works are associated with the construction of new regionally significant infrastructure (rather than maintenance or upgrade or existing regionally significant infrastructure) and therefore are not provided for under Rule R197. The use of machinery and construction vehicles on the beach during construction activities therefore falls for consideration as a **Non-Complying Activity**.
Beach re-nourishment (deposition)	
Rule R208 Deposition outside sites of significance Deposition outside sites and habitats identified in Schedule C (mana whenua), Schedule E4 (archaeological sites), Schedule F4 (coastal sites), Schedule F5 (coastal habitats) or Schedule J (geological features) in, on or under the coastal marine area, including any associated: (a) disturbance of the foreshore or seabed, and (b) discharge of contaminants that is not a permitted activity under Rule R206 or a controlled activity under Rule R207 so is a discretionary activity under Rule R208.	The applicant is unable to confirm that deposition of material associated with beach re-nourishment can meet the requirements of Rule R207 because of uncertainty about the depth of excavation required to construct the high-tide bench to enable nourishment activities (cannot confirm compliance with coastal management general conditions). The applicant has confirmed that beach re-nourishment will occur wholly outside seagrass areas (sites of significance within Schedule F5). Therefore, beach re-nourishment is considered a **Discretionary Activity**.
Reclamation	

Rule R214 Reclamation and drainage for regionally significant infrastructure outside of sites of significance Reclamation and drainage for regionally significant infrastructure activities outside a site or habitat identified in Schedule C (mana whenua), Schedule E4 (archaeological sites), Schedule F4 (coastal sites), Schedule F5 (coastal habitats) or Schedule J (geological features) in the coastal marine area, including any associated: (a) occupation of space in the common marine and coastal area, and (b) destruction of the foreshore or seabed, and (c) disturbance of the foreshore or seabed, and (d) deposition in, on or under the foreshore or seabed, and (e) discharge of contaminants, and (f) diversion of open coastal water is a discretionary activity.	Seawalls are excluded from the definition of reclamation under the PNRP[10] and therefore the assessment under the PNRP has determined the proposal does not require consent for reclamation

[10] Reclamation in the coastal marine area means the creation of dry land and does not include coastal or river mouth protection structures such as seawalls or revetments, boat ramps, and any structure above water where that structure is supported by piles, or any infilling where the purpose of that infilling is to provide beach nourishment

6.3 Overall activity status

Overall, under the principle of consent bundling where the most restrictive activity status applies, the activities associated with construction and operation of the Shared Path must be assessed as a **Discretionary Activity** under the Operative Regional Coastal Plan, and a **Non-Complying Activity** under the Proposed Natural Resources Plan (Notified version, July 2015).

7. Other consents and approvals required

7.1 Hutt City Council District Plan

As works associated with construction of the Shared Path are required both within and above MHWS land use consents for works outside of the CMA are also required. In this regard, the applicant has applied to HCC Consents for the following land use consents:

- *Rule 13.3.1.38:* Land use consent for the construction, alteration (including widening the road in some areas) and diversion of Marine Drive to create the Shared Path.

- *Rule 14 2.2(b):* Land use consent for the construction and operation of the Shared Path within a Significant Natural Resource (SNR) site, being SNR 44.

An assessment of these aspects of the application is contained within the s42A report of Mr Kellow.

7.2 Heritage Authority

The project area is a highly modified environment and no sites of cultural or archaeological importance have been identified as part of investigations to inform the preliminary design. However, given the historic occupation of the area, it is possible that archaeological sites may be uncovered during further investigations to inform detailed design.

No authorisation under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA) from Heritage New Zealand has currently been sought. However, should unidentified subsurface features be exposed at any time during investigations or construction activities, an authority will be applied for under Section 44(a) of the HNZPTA to cover all works undertaken for the project before any further works are undertaken, to avoid any potential construction delays.

7.3 Other approvals

The applicant will also require:

- Land access agreements with private properties where works are being undertaken or access through private property is required (refer Table 1)

- Relevant permits from the Department of Conservation (DoC)) for any works involving capture and relocation of any penguins or coastal birds and temporary blocking of fish passage (if required); and

- Trade waste permit and/or supporting approval from Hutt City Council for discharges of contaminants to trade waste

- Approval from Wellington Water for discharges of contaminants to the stormwater system (given the potential implications for their global stormwater consent)

- Building consents (if required).

8. Notification and submissions

8.1 Notification

On Tuesday 29 October 2019 the public, relevant stakeholders and directly affected persons were served notice of the application; notice to directly affected persons was served via post based on the current HCC rates database contact information for residents.

The application was publicly notified in the Hutt News on Tuesday 29 October and the Eastbourne Herald on 17 November 2019. Signs advertising the consent application were erected at the entrance to Point Howard and within the carpark adjacent to the intersection of Muritai Road and Marine Drive in Eastbourne during the week beginning 4 November 2019.

Notice of the application was served on the following stakeholders:

- Great Harbour Way Trust

- Hutt Cycling Network

- Walking and Cycling Advisory Group

- Respective Residents Associations

- Eastern Bays Community Board

- Department of Conservation

- Forest & Bird

- Transpower

- CentrePort

- Wellington Water

- GWRC Harbours

- Port Nicholson Block Settlement Trust

- Te Runanga o Ngāti Toa

- Wellington Tenths Trust
- Te Ātiawa ki te Upoko o te Ika a Maui Potiki Trust
- Waiwhetu marae
- NZTA
- Eastern Bays Little Penguin Group
- Maritime NZ
- Heritage NZ
- Wellington Electricity

Engagement undertaken by the applicant prior to lodgement of the application is outlined in the Stakeholder Engagement and Consultation Report (SECR) contained in Appendix I of the application AEE.

8.2 Submissions

At the close of submissions at 4.30 p.m. on Wednesday 27 November 2019, 192 submissions had been received. A further eight (8) submissions were received after the close of submissions.

Of the 200 submissions received. 179 are in support of the application (either in full or in part), 16 are in opposition (in full or in part) and 5 submissions are neutral.

A summary of all submissions received, including the issues raised in these submissions, is attached as **Appendix B** to this report.

8.3 Late submissions

As identified in section 8.2 of this report 8 late submissions were received.

Under section 37(1)(b) of the Act, a consent authority may waive a requirement to comply with a time limit for the service of documents (eg, submissions). In making such a waiver, the consent authority is required by section 37A(1) of the Act to take into account:

a) The interests of any person who, in its opinion, may be directly affected by the waiver;

b) The interests of the community in achieving adequate assessment of the effects of any proposal, policy statement or plan;

c) Its duty under section 21 to avoid unreasonable delay.

Five submissions were received in the two working days following the close of submissions. One was received 5 days late (due to illness); one was 6 days late; and one was 13 days late (submitter had been overseas). All of the late submissions were in support of the project and recommend granting. Three of

these submitters wish to be heard at a hearing and five do not. These late submissions were not substantially different from the majority of the submissions received on the application.

With the support of the applicant, these late submissions were accepted under section 37(1)(b) of the Act.

8.4 Issues raised by submissions

The below section outlines all of the issues raised in submissions received on the proposal. The section below has been presented in no particular order and does not reflect a 'hierarchy' of the significance of identified issues.

8.4.1 Issues raised by submissions in support

- Improved safety for pedestrians and cyclists
- Increased resilience from natural hazards
- Enhancement of recreation amenity opportunities
- Effects from natural hazards and climate change
- Modal shifts and alternative transport options
- Climate change (reduction in emissions)
- Increased opportunities for tourism
- Economic benefits
- Enhanced connectivity between the bays and wider Lower Hutt area

8.4.2 Issues raised by submissions of conditional support or neutral submissions

- Design of shared path
- Design of fish passage structures
- Mitigations for penguins
- Safety barriers
- Adherence to recommendations in technical reports
- Locations of beach access structures in Sunshine Bay
- Removal of rubble and demolition material in Sunshine Bay
- Conditions requiring pre-construction consultation with the Oil Companies and Z Energy
- Co-ordination of penguin nesting boxes and mitigation for penguins with Oil Companies
- Signage and memorials to reflect Russo fishing fleet at Windy Point
- Seawall design in Sunshine Bay
- Beach nourishment at Mahina Bay

- Mahina Bay bus stop
- Educational opportunities of the importance of streams and daylighting of streams
- Water sensitive stormwater design
- Opportunities for laying infrastructure in widened road corridor in future
- Construction of off-shore structures

8.4.3 Issues raised by submissions in opposition

- Excessive design and width of path
- Lack of consideration of low-cost options
- Modifications to bus stops and impacts on bus patronage
- Loss of high-tide beach area
- Removal of Pohutukawa (Atkinson Tree) in York Bay
- Uncertainty in the effectiveness of beach nourishment
- Effects on visual amenity and natural character
- Presence of a visual barrier (safety barrier)
- Effects on boating activities due to boat ramp design
- Effects on penguins and penguin habitat
- Effects of construction machinery on rocky shore and beach environments
- Concern about the duration of consents
- Reduction or restriction of access to the CMA
- Effects on marine ecology (including seagrass)
- Concerns about seawall integrity and associated erosion and scour effects
- Non-compliance with relevant policy documents

The assessment provided in this report covers the issues raised in submissions within the jurisdiction of GWRC.

Matters raised in submissions outside of the jurisdiction of GWRC and HCC Consents include:

- Concern about use of ratepayer funding and funding mechanisms
- Failure to include Days Bay and Point Howard sections of path (out of scope)
- Changes to the naming conventions (and associated signage) of respective bays

- Changes to speed limits and associated signage

8.5 Further information and meetings

8.5.1 Further information

On 29 May 2019 GWRC and HCC Consents made a request to the applicant for further information under s92(1), and an additional request for affected party approval under s95E of the Resource Management Act (the Act).

The s92 request sought further information on a number of matters including:

- The applicant's approach to management of effects on coastal vegetation and avifauna (including penguins)
- The presence of herpetofauna within the project footprint
- Potential effects on marine mammals
- The applicant's approach to management of pests and rodents
- The applicant's approach to management of effects on seagrass
- Assessment of relevant natural character and landscape provisions of the New Zealand Coastal Policy Statement (NZCPS)
- The methodology used for assessing the presence of freshwater fish
- Path width and potential recreation amenity and safety effects of a path narrower than relevant standards
- The applicant's approach to monitoring of coastal processes
- The presence of safety barriers and whether these were sought as part of the consent (requested by HCC Consents from a traffic safety perspective but also relevant to GWRC from a natural character and landscape perspective)

In respect of this request for further information a number of responses were provided by the applicant and further clarification was also requested by GWRC and HCC Consents following some of the responses provided.

Pre notification

The responses received prior to notification included a series of Memorandum's submitted by the applicant (numbered 1 – 4) the contents of which are summarised below:

- Memorandum 1 received 22 July 2019

Memorandum 1 responded to and resolved concerns around herpetofauna (being the environment did not support lizard habitat), effects on marine mammals,

relevant provisions of the NZCPS in respect of natural character and landscape matters, the management of pests and rodents during construction, the fish presence assessment methodology and the coastal processes monitoring conditions.

The applicant advised that a response regarding penguins, coastal birds and seagrass would follow in a separate memorandum. Concerns about the safety barrier were noted and ultimately deferred until further assessment could be undertaken.

- Memorandum 2 received 20 August 2019

Memorandum 2 included a report on Avifauna and Little Penguins prepared by Dr John Cockrem of Kororā Ornithology Ltd and a memorandum from Dr Fleur Matheson from NIWA related to the applicant's approach to the management of seagrass beds in Lowry Bay.

The response regarding management of effects on seagrass beds was deemed to appropriately resolve concerns around seagrass. However, *Memorandum 2* did not resolve concerns around effects on coastal birds and penguins and further clarification was sought in an email to the applicant on 10 September 2019.

- Memorandum 3 received 18 September 2019

Memorandum 3 was an independent memorandum in that it did not relate to the original request for further information. *Memorandum 3* was required because the decisions version of the PNRP (31 July 2019) was released which required a revised assessment of the relevant objectives and policies for the purposes of the substantive assessment under s104, and the gateway test under s104D, and also responded to an earlier email seeking clarification on the activities requiring consent. *Memorandum 3* also included a Hazard and Risk Management Strategy, a requirement of one of the most directive revised provisions of the PNRP.

Further discussion on the need for safety barriers was included and again deferred to a future response.

- Memorandum 4 received 19 September 2019

Memorandum 4 responded to outstanding concerns about the need for safety barriers and concerns over the path from an operational safety perspective, as raised in the technical review of the application by Mr David Wanty, transportation expert, on behalf of HCC Consents.

Following *Memorandum 4* the applicant provided a revised Landscape and Visual Assessment (supplementary LVA) and supporting visualisations and design plans prepared by Drakeford Williams dated October 2019. This information was received on 8 October 2019, and in the opinion of Mr Kellow and I, formally introduced the presence of safety barriers into the scope of the project.

Refusal to provide further information

The applicant submitted a letter, received 19 September 2019, providing written notice that the applicant was refusing, under section 92A(1)(c), to provide the further information sought in the email dated 10 September 2019 related to effects on penguins and coastal birds.

The application was subsequently notified with outstanding concerns about the effects on penguins and coastal birds unresolved. Mr Kellow and I also made the applicant aware that concerns about the presence of safety barriers had not been resolved and that further assessment would be required following the notification process.

Post notification

On 22 January 2019, following the close of submissions and having regard to the need to undertake further work to resolve concerns about the effects on penguins and coastal birds, and to a lesser extent safety barriers, the applicant requested GWRC and HCC Consents cease processing the consent application under section 91A of the RMA[11].

On March 6 2020 in the interests of transparency and resolving as many issues as possible in advance of a hearing Mr Kellow and I sent an email to the applicant containing the position statements of GWRC and HCC Consents experts following review of submissions (prepared to inform the s42A reporting). These position statements included suggestions as to how outstanding concerns may be resolved.

- Memorandum 5 received 15 June 2020

Memorandum 5 responded to the position statements and outstanding matters of concern and included a revised suite of consent conditions.

Following review of *Memorandum 5* a joint memorandum prepared by Mr Kellow and I (*Response to Memorandum 5*) was sent to the applicant on 9 July 2020 to inform discussions on outstanding concerns, and some additional concerns arising from the revised conditions, in the interests of working towards confirming a hearing date.

- Memorandum 6 received 22 October 2020

Memorandum 6 responded to the *Response to Memorandum 5* and outstanding matters of concern and included a revised suite of consent conditions.

Memorandum 6 is the final pre-hearing response of the applicant with regard to resolving outstanding concerns surrounding effects on penguins and coastal birds and all other matters raised in *Response to Memorandum 5*.

[11] The s91A deferral expired during lockdown, given COVID19 and logistical constraints, and in the knowledge that the applicant was progressing with resolution of outstanding matters of concern GWRC made the decision to continue processing the application with the statutory timeframe considerations to be tidied up via a s37 prior to the commencement of a hearing.

The original request, relevant responses and further correspondence related to further information are all available on the GWRC website:

https://www.gw.govt.nz/assets/Resource-Consents/Eastern-Bays-Shared-Path

The particular memorandum where comments or matters discussed below have been addressed has been identified where relevant.

8.5.2 Meetings

In the interests of resolving concerns about effects on coastal birds and penguins the applicant arranged a meeting with local penguin experts and regulatory stakeholders on 2 March 2020 to discuss mitigation and offsetting options. This meeting was to inform the applicant's further thinking about project design, offset and mitigation measures and the content of any management plan to address effects on penguins and shorebirds.

The formal record of this meeting and the offset and mitigation suggestions discussed at this meeting is attached as **Appendix C**.

9. Matters for consideration

This section sets out the framework that has been used to assess the application.

9.1 Statutory criteria

The requirements of the Act that relate to the decision making process are contained within sections 104-116. The sections of particular relevance to this application are listed below.

The matters to which a consent authority shall have regard when considering applications for resource consents and submissions are set out in section 104(1) of the Act as follows:

> *When considering an application for resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to –*
>
> *(a) any actual and potential effects on the environment of allowing the activity; and*
>
> *(b) any relevant provisions of –*
>
> *i. a national policy statement,*
>
> *ii. other regulations,*
>
> *iii. a national policy statement*
>
> *iv. a New Zealand coastal policy statement,*
>
> *v. a regional policy statement or proposed regional policy statement; and*
>
> *vi. a plan or proposed plan; and*

(c) any other matters the consent authority considers relevant and reasonably necessary to determine the application.

The provisions of s104 are all "subject" to Part 2, which means that the purpose and principles of the Act are paramount.

9.2 Planning instruments and other matters

The following planning instruments and documents are relevant to this application:

National

- The Marine and Coastal Area (Takutai Moana) Act 2011
- The New Zealand Coastal Policy Statement 2010
- The National Policy Statement for Urban Development 2020
- National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011

Regional

- The Regional Policy Statement for the Wellington Region 2013
- The Regional Coastal Plan for the Wellington Region 2000
- The Proposed Natural Resources Plan Decisions Version July 2019

District

- Hutt City Council District Plan

I have deferred the assessment of the Hutt City Council District Plan to HCC Consents and Mr Kellow's s42A report.

The actual and potential effects on the environment of allowing the activities are addressed in section 12 of this report.

The relevant provisions of the planning instruments identified above are discussed in section 13 of this report.

Other matters relevant to this application are considered in section 14 of this report.

10. Consideration of alternatives

An Alternatives Assessment Report (attached as Appendix G of the application AEE) has been provided in support of the resource consent application. The assessment describes that throughout the development of the project, alternatives and options associated with the design were investigated and recorded. The applicant has considered alternative alignments for the Shared Path, options for the width of the Shared Path, the design treatments and features, and construction methodologies for delivering the Shared Path.

The applicant describes that five potential options for the alignment of the Shared Path were considered[12]. Due to the physical constraints on the landward side of Marine Drive, and lack of adequate width within the Marine Drive carriageway, the widening of the road on the seaward side to accommodate the Shared Path (Option 2d) was identified as the preferred option.

The key reasons for favouring the seaward path alignment are summarised by the applicant as being:

- To avoid the steep hill slopes along large sections of the landward side of the road which would require earthworks (cut) on the Eastern Bays headlands
- To avoid considerable purchase of private property and physical disturbance to properties and dwellings
- To minimise car and cycle/pedestrian conflicts:
    - A shared path on the landward side of Marine Drive would reduce visibility during egress from and entry to properties
    - A landward path would result in cyclists and pedestrians having to pass across all the streets and properties fronting Marine Drive
    - If the Shared Path would need to cross between landward and seaward sections it would result in an increase in traffic and cycle/pedestrian conflicts
- To enhance the connection to the coast and increase recreational benefits for the community
- To align with the Great Harbour Way/Te Aranui O Pōneke which, apart from the section past the port, is intended to follow the coast
- Ability to integrate with coastal hazard protection and respond to the effects of climate change. A seaward location enables the efficient use of natural and physical resources by integrating the Shared Path with new and upgraded seawalls
- Ability to enhance environmental outcomes through providing a modern seawall and design features that respond to environmental effects on issues such as fish passage and penguin passage, and natural character
- Ensuring that the option is affordable to the community, and provides medium to long-term benefits.

Taking forward the seaward alignment of the Shared Path, the applicant carried out investigations of alternative options for the design of the path at two stages

[12] Section 3 – 6 of the Alternatives Assessment attached as Appendix G of the application AEE

of the Project – the Indicative Business Case (IBC) stage and the Detailed Business Case (DBC) stage.

The IBC stage included a multi-criteria analysis (MCA) on five path width options with each option evaluated against a number of project objectives including safety, resilience, upgrade potential, consentability and beach impact. The MCA process determined that Options 4 and 5, being a path width of 2.5 m and 3.5 m respectively, were the favoured options. Community consultation and assessment of alignment against investment objectives reinforced Options 4 and 5 as the two preferred options that would be progressed.

Options evaluated at the DBC stage included seawall treatments and supporting infrastructure. Twelve potential seawall options that would provide additional corridor width to accommodate a shared path were considered. The option evaluation determined that where a new seawall is being provided, it would be either a curved wall type for wave redirection (primarily double curve but with sections of both single and triple in response to the specific location constraints) or rock revetment. These options were presented to the community where in response to community feedback a refined option (Option 1A) that sought a balance between beach encroachment and limited road realignment was developed.

In response to community feedback and following further evaluation by the project team a recommended option was determined and developed into preliminary design plans. This recommended option is presented in detail in section 8.3 of the Alternatives Assessment.

The applicant describes that the preliminary design was then further refined to respond to the regulatory arms of GWRC and HCC to include:

- Design refinements to the path width at Point Howard, Lowry Bay and York Bay in response to the addition of beach nourishment which was introduced to mitigate the loss of usable high-tide beach

- Replacement of revetment in northern and southern Lowry Bay with curved seawalls to avoid effects on significant subtidal habitat

- Design refinements to enhance the amenity of the shared path as well as measures to mitigate the effects of the work (for example measures to support penguin access and fish passage).

In summary, the outcome of the evaluation of options was a seaward side shared path of varying width between 2.5 m and 3.5 m, attained by using the existing shoulder where possible, reallocating road space where feasible, and by constructing new seawalls, with curved or revetment treatments, beyond the existing road pavement edge (or existing seawall edge) to create additional width to facilitate the new shared path.

This was recommended as the preferred option because it would best achieve the projects objectives of improving safety and increasing the number of pedestrian

and cyclists, enhancing connection to the coast and recreation opportunities and improving the resilience and availability of Marine Drive.

I am satisfied that a Shared Path on the seaward side is the most practicable option to achieve the project objectives.

11. Existing environment

11.1 Environment and site description

The existing environment is described in section 10 of the application AEE and described in further detail in the respective technical reports submitted in support of the application. Where relevant the existing environment (and the adequacy of the assessment of it) is discussed in section 12 below.

In summary:

- The project affects five distinct bays (as described in section 3) with each bay having its own distinctive character which is the cumulative product of the settlement pattern and the bay landform. A bay by bay description can be found in the Landscape and Visual Assessment prepared by Drakeford Williams (Appendix D of the application AEE)

- Marine Drive has been widened several times through small seaward enlargements, with the coastal fringe supported by engineered concrete and rock defences along approximately 87% of the project length. The remaining length contains an interface with no seawall (i.e. the harbour floor transitions through a beach area to the road surface or consists of a vegetated or unvegetated bank)

- The seawalls that currently exist comprise of concrete or rock revetment and gabion baskets in small sections. The concrete seawall makes up most of its length and is in varying states of condition. The residual design life of the existing seawalls varies between 5 years to 80 years

- The existing seawalls have disrupted the natural sediment transport regime within each bay, particularly during storm events. Over time, the effect of the seawalls and reduced sediment supply (compared to the natural undeveloped state) on beaches has caused a slow loss of sand volume, reducing beach width, coarsening of beach material and gradually changed the overall plan shape of the beaches

- There is no clear long-term trend of erosion or accretion in the embayments of the project area, demonstrating that the sediment volume within each bay remains nearly stable in the long-term

- No Outstanding or Very High Natural Character areas were identified within the Eastern Bays project area[13]

[13] A Wellington City and Hutt City natural character assessment was undertaken by Boffa Miskell in 2016 for Greater Wellington Regional Council and Hutt City Council.

- Vegetation habitats in the project area are intertidal and subtidal, beach gravels and sands, rocky islets, rocky headlands and promontories, landscape plantings and open space habitats

- Throughout the project area, numerous stormwater and piped stream outlets discharge into the intertidal zone, with some having natural open stream channels upstream that are known to have native fish present

- The most likely freshwater fish species to be found in the Eastern Bays streams is banded kokopu (Galaxias fasciatus) There is also the possibility that other species, such as eels (Anguilla spp.) and koaro (Galaxias brevipinnis) could be present in some of the larger streams

- The intertidal habitat of the Eastern Bays area comprises of moderately to very sheltered rocky reef, with a mix of substrate dominated by either bedrock, pebbles and boulders, or sand. No invertebrate or taxa of conservation concern were observed or recorded within the project area

- Species of value as human food sources were neither abundant or widespread within surveyed intertidal areas From the Māori perspective, these shorelines used to provide mahinga kai or a place to gather shellfish

- The community composition of the surveyed area was as expected for this general location (lower North Island) and rocky shore intertidal habitat, and is similar to the rocky shore communities found elsewhere in the Wellington Harbour

- Three seagrass (rimurēhia, Zostera muelleri subsp. novazelandica) occurrences of varied densities were found in the intertidal and subtidal zones at south Lowry Bay (total area 1940 m^2). This is the only known occurrence of seagrass remaining in Wellington Harbour

- The small gravel beaches in all five bays are classified as an endangered, historically uncommon ecosystem (shingle beaches). These beaches are small in extent and highly modified and are assessed to have Moderate ecological value

11.2 Planning notations

The following planning regional plan notations are relevant to the project:

Regional Coastal Plan

- **Appendix 4:** Features and buildings of historic merit – Skerrett Boatshed (Lowry Bay)

- Water Managed for Contact Recreation and Shellfish Gathering Purposes (Planning Map 8D) – entire project area

- Hutt Valley Aquifer Zone – entire project area

Proposed Natural Resources Plan

- **Schedule B:** Nga Taonga Nui a Kiwa - Wellington Harbour is identified as a coastal entity from which Taranaki Whānui ki te Upoko o te Ika a Maui derive cultural and spiritual identity.

- **Schedule D:** Statutory acknowledgements - The CMA is identified in the statutory acknowledgements from the Port Nicholson Block Claims Settlement Act 2009.

- **Schedule D:** Statutory acknowledgements - The CMA is identified in the statutory acknowledgements from the Ngāti Toa Rangatira Claims Settlement Act 2014.

- **Schedule E1:** Historic heritage structures – Skerrett's Boatshed (Lowry Bay)

- **Schedule F2c:** Habitats for indigenous birds in the CMA - The foreshore between Point Howard and Days Bay (which covers the entire project footprint with the exception of Windy Point) is identified in Schedule F2c as significant habitat for indigenous birds in the CMA. Schedule F2c identifies the following Threatened or At Risk taxa and their habitat as present within the Eastern Bays foreshore: variable oystercatcher, red-billed gull, black shag, little black shag and pied shag.

  In addition, the inland waters of Wellington Harbour, including the Eastern Bays foreshore, are identified as providing habitat for little penguin, fluttering shearwater, caspian tern and white-fronted tern.

- **Schedule F5:** Habitats with significant indigenous biodiversity values in the CMA - Three seagrass occurrences of varied densities are found in the subtidal zone at south Lowry Bay.

- Hutt Aquifer Protection Zone (Wellington Harbour) **–** entire project area

12. Assessment of actual and potential effects 104(1)(a)

This section provides an assessment of actual and potential effects of the proposal on the environment. My assessment is based on information provided in the resource consent application (AEE and appended expert reports), further information provided by the applicant in response to section 92 requests and in response to further questions raised during the course of the application, and advice from GWRC technical experts.

GWRC engaged the following technical experts to advise on the effects of this consent application:

- Dr Roger Uys, Senior Terrestrial Ecologist, Environmental Science, GWRC. Dr Uys is an expert in terrestrial ecology and reviewed the application in relation to the effects on coastal birds, namely little penguins and shoreline foragers and coastal vegetation. Dr Uys has been involved in the review of all information related to penguins and coastal

birds submitted by the applicant and has also provided ongoing advice to, and been available to answer questions from, the applicant and the applicants experts as to the approach to assessment and management of effects on penguins and coastal birds throughout the duration of the project. Dr Uys' advice is provided in **Appendix E** of this report.

- Ms Catherine Hamilton, Principal Landscape Architect, WSP Opus. Ms Hamilton is an expert in recreational amenity and social impacts, and on behalf of GWRC and HCC Consents, reviewed the application in regards to effects of the proposal on recreation amenity and provided advice on managing the effects of the proposal, specifically in relation to path width and the loss of usable beach space. Ms Hamilton's advice is provided in **Appendix F** of this report.

- Dr Iain Dawe, Senior Policy Advisor, Hazards and Coast, GWRC. Dr Dawe has expertise in coastal processes and natural hazards and was engaged to review the application and provide advice on the impacts of the proposal on coastal processes, the suitability of the design in response to natural hazards (climate change) and the appropriateness of beach nourishment. Dr Dawe's advice is provided in **Appendix G** of this report.

- Ms Sharyn Westlake, Senior Engineer, Flood Protection Department, GWRC. Ms Westlake reviewed the consent application and provided advice with respect to effects on erosion and scour, the suitability of the seawall design and the appropriateness of the adaptability of the Shared Path in response to climate change. Ms Westlake's advice is provided in **Appendix H** of this report.

- Mr Jeremy Head, Senior Landscape Architect, WSP Opus. Mr Head is an expert in landscape and visual amenity effects and natural character, and on behalf of GWRC and HCC Consents, reviewed the application in relation to the effects of the proposal on natural character and landscape and visual amenity for residents, users of the Shared Path, users of Marine Drive (drivers), and users of the CMA. Mr Head's advice is provided in **Appendix J** of this report.

- Dr Megan Oliver, Team Leader, Marine and Freshwater Team, GWRC. Dr Oliver was engaged to comment on the effects of the proposal on the intertidal and subtidal ecology, including seagrass meadows, of the nearshore coastal environment. Dr Oliver's advice is provided in **Appendix I** of this report.

- Dr Evan Harrison, Acting Team Lead, Marine and Freshwater Team, GWRC. Dr Harrison reviewed the consent application and provided advice with respect to effects of the works, namely the upgrade of existing stormwater outlets, on aquatic ecology. Dr Harrison's advice is provided in **Appendix K** of this report.

- Ms Rebecca Morris, Senior Groundwater Scientist, GWRC. Ms Morris is an expert in groundwater and provided advice on the application in relation to potential effects on the Waiwhetu Aquifer as a result of piling and construction of seawall foundations in the Aquifer Protection Zone. Ms Morris' advice is provided in **Appendix L** of this report.

The assessment undertaken by the technical experts is discussed with respect to the effects of the proposal in the sections below.

The assessment of environmental effects below considers the key effects arising from the application within the jurisdiction of GWRC. These effects are:

- Effects on coastal birds and penguins
- Effects on public access and recreation amenity
- Effects on coastal processes
- Effects on natural character
- Effects on water quality
- Effects on intertidal and subtidal ecology
- Effects on freshwater fish
- effects on the Waiwhetu Aquifer
- Effects on cultural and heritage values
- Construction noise, dust and vibration
- Effects of sea level rise
- Positive effects

Other matters for consideration by HCC Consents, and assessed by Mr Kellow in his s42A report include:

- Effects of the proposal on transport
- Effects on terrestrial vegetation and gravel beaches above MHWS
- Effects on recreation amenity and safety (use of the path)
- Effects on landscape and visual amenity
- Tourism and economic benefits
- Effects on infrastructure in the road corridor

12.1 Effects on penguins and coastal birds

As briefly identified in section 8.5.1 above, the applicant has submitted several further information responses attempting to quantify the effects of the project on penguins and coastal birds. These responses include:

- *Memorandum 2* which included a report on Avifauna and Little Penguins prepared by Dr John Cockrem of Kororā Ornithology Ltd
- *Memorandum 5* which included an assessment of the effects of the application against the 'mitigation hierarchy' prescribed by the PNRP

These responses have been superseded by *Memorandum 6* which provided a detailed assessment of the effects of the proposal on penguins and coastal birds and the steps and measures taken by the applicant to manage these effects.

Since the provision of *Memorandum 6* further discussions between the applicant and GWRC have occurred. As a result of these discussions, the applicant has formally revised its proposed mitigation and habitat enhancement measures as set out in the email from Esther Bennett, Senior Solicitor, Buddle Findlay, on behalf of the applicant, received 13 November 2020 attached as **Appendix D**.

The following 'Threatened' or 'At Risk' species and their habitat are present within the Eastern Bays foreshore: reef heron, variable oystercatcher, red-billed gull, black shag, little black shag and pied shag. In addition, penguin nests are located along the Eastern Bays foreshore and will be affected by the proposal.

The project has the potential to affect these species through direct disturbance of habitat during construction, and the permanent alteration of habitat required to accommodate the Shared Path. Potential effects on these species and habitats during the construction phase include sedimentation, increased food and waste along the site which will attract pests, noise and disturbance. The operational phase effect of the project on these species is encroachment and the consequential loss of habitat and ongoing disturbance to nesting birds due to use of the Shared Path and the presence of humans and dogs. Increased use will also result in more food waste which will encourage pest animals. These pest animals will pose a threat to penguins and other coastal birds and their eggs and chicks.

12.1.1 Effects on shoreline foragers

A number of shore birds categorised as 'Threatened' or 'At Risk' forage, roost and nest on the foreshore and in intertidal areas around the Eastern Bays coastline. As summarised in GWRC's original request for further information[14] while any potential adverse effects on the offshore fishers (shearwaters, terns and giant petrel) and inshore fishers (shags) are likely to be temporary the potential effects on shoreline foragers (reef heron, gulls and variable oystercatchers) may result in a permanent reduction in their intertidal foraging and breeding habitat.

[14] Request for further information 29 May 2019

Currently, shoreline foragers within the project footprint have around 55,185 m^2 of available shoreline habitat, with 3,786 m^2 (or 6.9%) of existing habitat expected to be lost as a result of the Shared Path[15]. This loss occurs on top of the cumulative reduction in habitat around the Wellington Harbour coastline.

Dr Uys considers effects on reef heron are unlikely to be distinguishable from other causes contributing to the loss of reef heron and therefore effects on reef heron are not considered further. Additionally, Dr Uys considers that concerns regarding effects on gulls attributed to the Shared Path cannot be justified given there is a harbour wide project seeking to reduce the number of gulls in Wellington Harbour.

The outstanding concerns about the effects of the proposal on shoreline foragers therefore relate to variable oystercatchers (oystercatchers). Oystercatchers have been classified as a Nationally 'At Risk: Recovering' species. The applicant has not been able to confirm the number of variable oystercatchers expected to be affected by this habitat loss, but Dr Uys believes that the project could potentially affect several breeding pairs of oystercatchers.

Oystercatchers are territorial and therefore any reduction of oystercatcher territories (or loss of habitat) may be sufficient to adversely affect breeding success. Even if pairs are not currently breeding in the area, maintenance of territories is essential to support the natural behaviour of this species.

At the time of writing this report the applicant has not yet identified the number of affected oystercatchers within the project footprint or assessed how the proximity of the path may affect oystercatcher feeding behaviour or proposed solutions to avoid or mitigate these effects.

12.1.2 Effects on penguins

The little blue penguin (little penguin) is classified as a 'Nationally At Risk: Declining' species. However, in the Wellington Region this species has been assessed by experts to be 'Regionally Threatened: Vulnerable'. The project area has been estimated to contain a significant proportion (12-14%) of the population in the Wellington Harbour. Little penguins are already under pressure from development and use of the Eastern Bays with only 34% of the coastline within the project area accessible to penguins. This will decrease to 22% (a further reduction of 35%) as a result of construction of the Shared Path.

Memorandum 6 described that two penguin nesting sites have been identified within the footprint of the Shared Path and will be destroyed. A further 17 penguin nesting sites have been identified on the landward side of the path, access to which will be affected by the construction and ongoing use of the path.

In addition to the 19 nests affected by habitat loss, a further 16 penguin nesting sites have been identified on the seaward side of the proposed footprint of the Shared Path. Penguins utilising these sites for nesting and/or moulting will be affected by the ongoing use of the path by people and dogs. The total number of

[15] Based on the information presented in *Memorandum 6*

penguins affected by the proposal will not be known until a detector dog survey is undertaken prior to construction.

12.1.3 Effects during construction activities

Potential construction effects on penguins include removal or displacement of a nest, moulting or other occupational sites, disturbance and destruction of adults, chicks, and eggs, and penguin injury or mortality through interaction with machinery.

The applicant has proposed measures (as recorded in *Memorandum 6*) that seek to ensure that construction is undertaken in a manner that avoids or mitigates to an acceptable level the temporary adverse effects on shoreline foragers and little penguins during design and construction activities. These measures include:

- Construction works must avoid active burrows or nests between 1 July and 31 January (little penguin breeding period)
- Noise arising from construction works must comply with the prescribed noise standards
- A Little Penguin Management Plan (LPMP) be prepared and submitted for certification. The LPMP requires the following measures to avoid or minimise adverse effects on little penguins during construction, including:
  - Two little penguin detection dog surveys to be undertaken in January prior to the commencement of construction to identify active burrows and nests that must be avoided
  - Ensuring that no construction works can occur in any areas that have not been surveyed; and
  - A protocol for enabling the relocation of burrows and nests outside of the construction area between 1 February and 30 June
- The requirement for shoreline forager nesting surveys undertaken by a suitably qualified ecologist, and for recommendations on the management of nests and measures to be developed by the ecologist to minimise adverse effects on the nesting birds
- A requirement that the construction area and adjacent parts of the CMA are kept in a tidy condition in terms of disposal and storage of rubbish
- Procedures to manage and control erosion, sediment run-off and contaminants into the CMA (described in further detail in section 12.6)

In addition, following the email from Ms Bennett, the applicant proposed an additional measure requiring construction works between the southern end of Howard Road to the northern Lowry Bay Boatshed be avoided in the months of

December and January if oystercatcher nests containing oystercatcher chicks are present.

Due to the above measures, the applicant considers the temporary construction effects of the project on coastal birds are less than minor. Dr Uys has confirmed that he is satisfied with the measures proposed by the applicant to manage effects on penguins and shoreline foragers during construction. Based on the advice of Dr Uys, the condition framework proposed by the applicant to manage effects on penguins and shoreline foragers is considered appropriate and I recommend these conditions be included if consent is granted.

I am therefore satisfied that, subject to the effective implementation of recommended conditions of consent, effects on little penguins and shoreline foragers during construction activities can be appropriately managed.

12.1.4 Avoidance of permanent effects on penguins and shoreline foragers

Memorandum 6 describes the following measures that have been incorporated into the project design to reduce the extent of encroachment onto the foreshore, and thereby avoid the loss of little penguin breeding habitat and intertidal foraging and breeding habitat for shoreline foragers:

Memorandum 6 describes that if a 3.5 m path width had been adopted across the project length the total loss of habitat would be approximately 12,397 m^2 (1.3 ha). The applicant has taken the following steps to avoid or otherwise minimise the extent of encroachment:

- Use of steeply rising curved seawalls as the predominant seawall design to reduce the encroachment footprint of the revetment seawall types. This has reduced the extent of encroachment by approximately 5,356 m^2 (a reduction of 2,589 m^2 in the CMA)

- The adoption of curved seawall designs rather than revetment structures at north Lowry Bay and south Lowry Bay. This has reduced encroachment by approximately 2,029 m^2

- Beach nourishment and associated monitoring and management at Point Howard beach, York Bay and south Lowry Bay. This will maintain the area of backshore habitat in these three bays (a minor positive effect)

- Landward realignment of Marine Drive is proposed to reduce beach encroachment at two areas (Sorrento Bay and York Bay) avoiding widening into the beach

- Reducing the path width at certain beach locations (northern Lowry Bay, Mahina Bay and Sunshine Bay) to 2.5 m. This has reduced encroachment by approximately 777 m^2

- Provisions of steps and boat ramps provided parallel to the seawalls, rather than perpendicular, to reduce beach encroachment by 106 m^2

Due to the above measures, the total proposed encroachment of the project has been reduced to a total of 5,500 m^2, a reduction and therefore avoidance of approximately 6,897 m^2 (potential area of 12,397 m^2 minus proposed encroachment area of 5,500 m^2). In total 3,000 m^2 of this is within the CMA.

Dr Uys acknowledges the efforts undertaken by the applicant to address and consider the management of effects on penguins and shoreline foragers. However, he remains concerned that the ongoing effects of the use of the path have not been recognised and therefore he is unable to assess whether these effects have been avoided or otherwise appropriately managed.

Beyond the ongoing effects of the use of the shared path not being recognised or assessed, Dr Uys is satisfied that the applicant has done what they can practically do to avoid effects on penguins and shoreline foragers.

Dr Uys considers that the residual effects remaining after exhausting the avoidance measures available to the project outlined above are more than minor and therefore mitigation and offsetting (and potentially compensation) is required before the effects can be considered acceptable.

12.1.5 Management of long-term effects on penguins and shoreline foragers

The applicant has proposed habitat enhancement (or protection areas) at Whiorau Reserve, north of Bishops Park and HW Shortt Park to mitigate the effects of habitat loss and disturbance from the Shared Path.

The total area subject to habitat enhancement is identified as being 21,900 m^2. Other than the 1,950 m^2 area at Whiorau Reserve expected to be used wholly by penguins, it is not clear what area of these habitat enhancement areas will be applicable to penguins and what areas will be used by shoreline foragers. Dr Uys considers this is not a material issue as the shoreline foragers will generally use the exposed areas of habitat closer to the tide while penguins will use the more vegetated and sheltered areas of the enhancement areas and therefore there will be little if any conflict between the species across the enhancement areas.

The enhancement areas and the approximate area for enhancement proposed by the applicant are presented in Table 8 below.

Table 8: Proposed habitat enhancement areas

Enhancement areas	Approx area for enhancement (m^2)
Whiorau Reserve	1,950
New protected area at northern end of Bishops Park	7,750
New protected area at HW Shortt Park	12,200

Dr Uys has confirmed these locations were identified in conjunction with Rangers from the Department of Conservation and local little penguin experts and advises they are appropriate sites for this purpose.

The habitat enhancement areas are proposed to be established subject to a Habitat Enhancement Plan (HEP) which requires as a minimum:

- The ability to accommodate and maintain at least 100 permanent nesting opportunities for penguins across the enhancement areas[16]
- The provision of additional foreshore habitat for shoreline foragers (gulls and shags), including wooden poles for roosting
- Fencing with a minimum standard of keeping dogs out
- Pest management, planting, and provisions for ecological resilience to sea level rise
- Signage to reduce the risks of adverse effects on penguins and shoreline foragers using the enhancement areas

The HEP requires commencement of habitat enhancement at Bishops Park and HW Shortt Park prior to construction and includes timeframes in which habitat enhancement measures are to be completed. The applicant has proposed conditions of consent to reflect the requirements of the HEP outlined above. I consider these conditions of consent are appropriate.

I further note that the LPMP (as proposed by the applicant) also requires the consent holder to explore opportunities to enhance little penguin habitat through detailed design, including potential seawall design opportunities to restrict road access and construction of safe penguin passage elements and design of the rock revetments to include key holes for little penguin nests. These measures are supported.

I acknowledge that a further email from Ms Bennett was received on 18 November 2020 included in **Appendix D** which included an additional habitat enhancement area specifically for oystercatchers at Sorrento Bay. Dr Uys had not had time to review and provide comment on this information at the time of submitting this report.

Pest control

Pest control indirectly acts as mitigation to the operational effects of the project on penguins and shoreline foragers.

In relation to pest control the applicant has proposed the following mitigation measures:

[16] The applicant proposed 60 nesting boxes in Memorandum 6 but this has been revised to 100 nesting opportunities (not strictly nesting boxes) in consultation with Dr Uys. The requirement for 100 nesting opportunities was formally proposed by the applicant in the email from Esther Bennett on 13 November 2020

- Up to a maximum of $60,000 (including GST) spread over 10 years for pest management within the enhancement areas and the adjacent Eastern Bays coastal environment.

- 6 monthly coastal clean ups along the Shared Path and adjacent beaches

- To maintain litter bins at locations where people tend to gather, i.e. at Point Howard, Whiorau Reserve and Days Bay.

Dr Uys supports the measures proposed by the applicant but notes that while proposed measures will contribute to the mitigation, they will not adequately address the long-term effects of the ongoing use of the Shared Path. **Dr Uys considers the applicant needs to demonstrate how this ongoing effect along the length of the Shared Path will be managed.** Dr Uys suggests this may include, but should not be limited to, the development of a Pest Management Plan outlining how the $60,000 will be utilised.

As a minimum, Dr Uys considers the plan must:

- Cover the full length of the Shared Path, with more intensive actions for the enhancement areas
- Identify when the worst environmental effects are expected (e.g. when birds are looking for nesting material [for litter] or chicks are hatching [for pests])
- Identify, or put in place a programme to identify problem areas and peak problem times for management of littering and pests (e.g. summer holiday season)
- Identify particular problem sources of litter and implement strategies to address these (e.g. frequent bins for dog waste bags along the path)
- Include strategies to manage the day-to-day litter and pests with details of how to deal with problem areas and problem times
- Make provision for coastal clean-ups twice a year
- Include strategies describing how the applicant will engage and educate the community on the presence of birds and the impact of dogs and pests on these birds through signage and outreach programs (e.g. school coastal clean-ups and similar community initiatives)
- Identify targets and establish monitoring programs and mechanisms to report annually to the community on the achievement of the targets, for at least the first five years of operation of the Shared Path

I have recommended a consent condition requiring the development of a Pest Management Plan reflecting these requirements.

Dr Uys remains concerned that the measures proposed by the applicant to address the effects of the ongoing use of the path expire after 10 years, while the ongoing effects of the project will endure for the life of the Shared Path. **Dr Uys**

considers the management response to the ongoing effects of the path should endure for the life of the Shared Path.

Dog control

The applicant has proposed to control dogs in the protected areas and to install signage to encourage the public to obey existing bylaws which require dogs to be on leads. Dr Uys has recommended the consent holder also install educational signage outlining the risks posed by dogs to penguins and coastal birds. I note that the email from Ms Bennett advised that the applicant is supportive of educational signage and considers the proposed condition framework accommodates this without the need for changes but suggests an advice note could be applied if considered necessary. I do not consider this advice note is necessary as the intent is captured in the recommended condition regarding the Pest Management Plan outlined above.

The applicant has also investigated options to enable part of the beach alongside the Bishops Park enhancement area to exclude dogs for 6 months (August – January inclusive). The applicant notes that while the applicant is supportive of such measures, dog exclusion requires a bylaw to be implemented, and that this is a separate statutory process. The applicant (as HCC) is willing to commit to seeking such an outcome through a condition of consent but is unable to guarantee the outcome of that process and therefore there is no certainty that this mitigation measure can be implemented. The applicant has proposed a consent condition requiring that the consent holder shall initiate the required statutory process to exclude dogs from the identified area for the months of August to January within six months of the commencement of consent.

12.1.6 Overall assessment

Penguins

Dr Uys advises that provided the applicant can accommodate 100 nesting opportunities at an appropriate spacing across the habitat enhancement areas, and an appropriate framework for pest management can be developed in accordance with the guidance provided above, effects on little penguins can be managed to an acceptable level.

I have recommended conditions of consent having regard to these matters. Should consent be granted, subject to the effective implementation of these conditions, I am satisfied the effects on little penguins can be appropriately managed.

Shoreline foragers (excluding oystercatchers)

Dr Uys is satisfied that the measures proposed by the applicant to mitigate effects on shoreline foragers such as shags and gulls can be considered acceptable. This is primarily because these species are able to find alternative habitat and are not subject to the same behavioural tendencies and territorial characteristics of oystercatchers. Therefore, habitat enhancement is likely to appropriately mitigate the effects of the proposal on these species.

Should consent be granted, subject to the effective implementation of recommended conditions of consent, I am satisfied that effects on shags and gulls are likely to be less than minor.

Oystercatchers

Dr Uys advises that while other shoreline foragers within the project area will feed, roost and nest communally, oystercatchers are territorial. This means that any loss of variable oystercatcher habitat cannot be mitigated by improvements in the condition of habitat elsewhere. Habitat enhancement will not mitigate the effects of the project on oystercatchers as they will not congregate in improved habitat.

Dr Uys considers habitat enhancement and dog and pest control is not sufficient to mitigate a reduction in food resources currently available to oystercatchers that will be lost to the project. Dr Uys considers the proposal as currently presented provides no path to manage the effects of habitat loss on oystercatchers. There remains a significant risk that effects on oystercatcher territories may affect breeding success which could lead to a decline in the population of oystercatchers.

Dr Uys therefore considers that residual adverse effects on oystercatchers after avoidance and mitigation measures proposed by the applicant, as outlined above, are more than minor.

The applicant is therefore encouraged to consider options to further manage the effects of the loss of habitat on oystercatchers and present these at the hearing for the consideration of the commissioners.

12.2 Public access and recreation amenity

The application includes an assessment of Effects on Recreation Assessment prepared by Rob Greenaway & Associates in Appendix K of the AEE (Recreation Assessment). Also of relevance to effects on recreation amenity is the supplementary LVA prepared by Drakeford Williams dated October 2019 after seaside safety barriers were confirmed as being part of the project. This is relevant because the safety barriers have the potential to affect user comfort and enjoyment during use of the Shared Path.

The key potential impacts of the proposal on public access and recreation amenity can be summarised as:

- Effects on recreation amenity and feelings of safety and comfort as a result of path width and design features
- Changes to public access to the CMA as a result of the proposed seawalls and supporting structures and temporary restrictions during construction
- Effects on recreational activities such as boating, shellfish collection and fishing

- Loss of useable high-tide beach

12.2.1 Perception of safety and user comfort (path width and design features)

Path width is the key driver for the extent of encroachment and occupation of the CMA attributed to the proposal.

The main concerns highlighted by Ms Hamilton relate to the effects of a path width considered below the minimum standard for recreational shared paths and potential effects on user comfort and enjoyment attributed to poor spatial design. These matters have been addressed by Mr Kellow in his s42A report.

I support the assessment and conclusions of Mr Kellow in this respect.

12.2.2 Public access

Potential effects related to public access include the loss of public access to the CMA and temporary restrictions on public access during construction activities.

The Recreation Assessment describes the Shared Path as an enhancement to access to and along the CMA and considers this enhancement significant at the local and regional levels, as well as at the national level, by linking the Eastern Bays with a Great Ride of both regional and national importance (the Remutaka Trail). The Recreation Assessment describes provision is made for people of all abilities, and the proposal effectively links many areas of public space, inland as well as coastal.

In general, I agree with the applicant that steps and ramps for foot traffic and boat/kayak access have been located close to or in the same location as existing steps and ramps. The Preliminary Design Plans provide for at least two forms of access to each beach, and additional steps at headlands where the existing landform allows informal access down to the foreshore. The application states that the design of the curved walls with stepped levels also provides easier access to rocky headlands. More formalised and easy to use boat ramps allow easier access for swimmers and the launching of paddle boards, kayaks and small boats and avoids the need for vehicles to use the beaches.

Public access will be temporarily restricted during construction, with fencing likely implemented to restrict public access for health and safety purposes. Avoiding adverse effects on coastal recreation adjacent to construction sites is very difficult and even more so in the Eastern Bays given the already constrained roading corridor and limited pedestrian access. However, restrictions to the CMA will be temporary and will result in a significant asset to the community post-construction.

During the construction phase, temporary occupation of the CMA and coastal zone by formwork or construction staging will be required. The temporary occupation footprint required for construction is 1.5 ha however encroachment for construction activities will not be simultaneous, with the applicant's construction methodology describing a maximum of 20 m of seawall under construction at any one time. The 'true' occupation of the coastal zone for construction activities at any one time is therefore limited to an area of 60 m^2 to 100 m^2, depending on the type of seawall under construction.

The applicant has proposed (and I recommend) as part of the CEMP process consent conditions requiring:

- Procedures for ensuring that residents, network utility operators, road users and businesses are given prior notice of the commencement of construction, the location and duration and effects of construction activities

- Minimising the area of disturbance and occupation of the CMA

While the application notes more than one construction area may be present within each bay, all construction area require certification from GWRC as part of the CEMP process. Public access is incredibly important to the community and the RMA and supporting planning documents prescribe that access can only be restricted in certain circumstances. I consider it unlikely that GWRC will certify any restriction of access to the entire length of affected beaches (i.e. there will be areas of beach unaffected by construction available to the public). I have recommended a condition of consent requiring that access to the entire length of any affected bay is prevented unless the applicant is able to provide evidence there is no practicable alternative.

Having regard for ensuring public access is maintained for people of all abilities, I also recommend a condition requiring the consent holder to engage a suitably qualified and experienced disability auditor to prepare an accessibility statement to guide design, and undertake accessibility audits in accordance with NZS 4121 Design for Access and Mobility – Buildings and Associated Facilities as part of detailed design.

Should consent be granted, subject to the effective implementation of recommended conditions of consent, I am satisfied that the proposal will ensure that public access to the CMA is appropriately maintained and where possible enhanced. I consider that further options for the enhancement of public access should be explored through the detailed design phase in response to concerns from submitters regarding the location of beach access structures at specific locations.

Overall, I am satisfied that effects on public access are likely to be no more than minor.

12.2.3 Effects on recreation activities

The Recreation Assessment describes the Eastern Bays between Point Howard to Sunshine Bay, and Windy Point, as being of local recreation value being predominantly used by local residents for swimming, small boat launching, walking and dog walking. The Recreation Assessment also notes all rocky shore areas provide snorkelling and fishing opportunities. However, a lack of visitor parking and poor coastal access inhibits use of most of the bays by visitors.

Section 16 of the AEE summarises the activities associated with the proposal, the effects and scale of effect on recreation activities within the respective bays,

the proposed actions to mitigate these effects and the anticipated scale of effects post mitigation as assessed by the applicant.

The various effects are discussed in further detail below.

Boating activities

Several submitters raised concerns about the design of the boat ramps or requested the provision of new boat ramps across the respective bays. In particular, numerous submitters expressed concern that the replacement boat ramp at York Bay will be smaller than existing and is not functional as proposed.

The application and Design Features Report state that no new boat or kayak access is proposed, instead where existing boat ramps are provided, the design will retain these and improve on the design. Boat ramps are located outside of MHWS and therefore the scale and specifications of the boat ramps are ultimately a design decision at the applicant's discretion but I would expect the boat ramps to be functional and the replacements to be as 'like for like' as is practicable. I further note that the location of the boat ramps, including the design, is subject to further investigation as part of the detailed design.

Acknowledging there will be temporary restrictions to public access including access for boating activities during construction activities, I consider there are no long-term effects of boating activities attributed to the proposal. I am satisfied that potential effects on boating activities are less than minor.

Shell-fishing

In relation to potential effects on shell-fishing activities, the Intertidal Ecology Assessment prepared by EOS Ecology (attached as Appendix A-1 of the application AEE) describes a number of shell-fish of potential value as mahinga kai were observed during the epifauna surveys, including blue mussel (*Mytilus galloprovincialis)* black mussel (*Xenostrobus neozelanicus),* greenshell mussel (*Perna canaliculus),* pipi (*Paphies australis)* and tuangi cockle (*Austrovenus stutchburyi).* Clusters of mussels (mostly blue mussel, with some black mussel) were found between the mid-low tide zone along the project area where bedrock outcrops were present and attached to some rough seawall surfaces. However, the species found in these areas were small and sparsely distributed and the assessment concludes these would be difficult to collect and for little gain.

The Intertidal Ecology Assessment describes that, with the exception of cockles that were observed in the low tide area of north-eastern Lowry Bay, the majority of these species would be found in the subtidal zone. As the footprint of the proposed Shared Path does not extend into the subtidal zone these species will not be directly affected by the Shared Path. However, mahinga kai species have the potential to be indirectly affected due to sedimentation or release of contaminants during construction activities. Potential effects on water quality and consequential effects on marine ecology are discussed in section 12.6 of this report.

Should consent be granted, subject to compliance with recommended conditions of consent regarding management of construction to minimise sedimentation and avoid release of cementitious products, I am satisfied adverse effects on shell-fishing activities can be appropriately managed such that they are less than minor.

Fishing

The Recreation Assessment noted only one significant fishing site, the regionally popular coastal fishing site at the southern end of Sunshine Bay (described as the Ferry Road headland) within the project area. However, based on the Preliminary Design Plans the Shared Path does not extend this far south, as the path transitions to the existing shoulder immediately south of Sunshine Bay Garage.

Therefore, this fishing site will remain unaffected by the proposal and the effect of the proposal on fishing activities across the project length is considered less than minor. It could be argued that the extension of revetments at Point Howard and Sunshine Bay even result in positive effects with regard to recreational fishing given the sturdier platform and enhanced access to the subtidal zone at these locations.

12.2.4 Loss of high-tide beach and beach nourishment

Much of the usable high-tide beach is located outside of the CMA, and so the extent of consideration is limited to the small areas of beach below MHWS that are lost as a result of the proposal.

In terms of effects on recreation amenity and loss of beach area the main forms of mitigation proposed by the applicant are narrowing of the path to reduce encroachment on high-tide beaches and therefore loss of usable beach area, and beach nourishment at Point Howard, Lowry Bay and York Bay where the path width cannot be narrowed due to concerns about crowding and busyness of the path and beaches during peak periods.

Beach nourishment is a strategy to mitigate loss of beach area available for beach amenity by nourishing the beaches with imported beach compatible fill, with a secondary benefit of improved coastal protection. Although a mitigation measure, I note that proposed beach nourishment could lead to potential adverse effects on the coastal environment. The effects of beach nourishment and the recommended conditions to manage these potential effects are discussed in sections 12.3 (coastal processes), 12.5 (natural character) and 12.7.2 (intertidal and subtidal ecology) below.

Beach nourishment will only occur in specific bays (Point Howard, Lowry Bay and York Bay) effectively compensating for loss of beach area by transposing the beach profile seaward while maintaining coastal processes. The Beach Nourishment Design Report (Appendix F of the application AEE) describes the key objectives for the nourishment as:

- Augmenting the existing beach areas to provide the same area of beach that is expected to be occupied by the seawall works where they extend beyond the existing seawall toe; and

- As far as possible to be within the existing beach footprint and not to increase the beach areas beyond the existing areas (except for temporarily during construction or to offset increased sediment loss rates after construction) so to avoid unnecessary adverse effects on intertidal and subtidal ecology and avifauna.

The Beach Nourishment Design Report details the beach nourishment design and construction methodology. This is reflected in section 5.1.6 of this report.

The total footprint of beach area lost at high-tide to the proposal, and the total area of high-tide beach following seawall construction and beach nourishment is presented in Table 9 below.

Table 9: High tide beach areas existing and post construction with the addition of beach nourishment

Beach	Area of existing high-tide beach (m^2)	Area of high-tide beach post-construction (m^2)	Area of high-tide beach after nourishment (m^2)	Loss or gain after seawall construction with beach nourishment	
				Area of beach lost/gained (m^2)	% of high-tide beach lost/gained (%)
Point Howard	240	115	382	142	59%
Lowry Bay	1,373	753	994	-379	-28%
York Bay	276	149	309	33	12%

The Beach Nourishment Assessment notes that the reduction in Lowry Bay may be as a result of inaccuracies in the calculation, being that the remainder of the high-tide beach area to the north of the nourishment zone had not been taken into account. Therefore, the loss of useable high-tide beach area at Lowry Bay in the context of this proposal might not be as significant as presented in Table 9 (-28%). **I recommend the applicant confirm the total loss of high-tide beach area at Lowry Bay in advance of the hearing.**

The nourishment length is required to be less than the existing effective beach length because it is preferential to provide a shorter area where the beach sediment can be placed, with the expectation that coastal processes will assist in redistributing the sediments within and across the embayments. Once placed, the nourishment material will be transported at the rate that the natural processes of waves, tide and wind allow. Placement of more sediment than natural processes can 'handle' has the potential to cause adverse effects on marine biota due to the increase in beach material in the system.

Proposed nourishment will provide for landward retreat of the beach crest and a seaward movement of the beach toe and over a period of days to months is expected to result in a beach slope similar to the existing beach profile. Although approximately 6,000 m^3 of material will need to be imported it is estimated that this will rapidly consolidate to around 4,600 m^3 when placed due to sediment transport processes, tidal action and construction traffic movements.

The applicant proposes to manage the effects of beach nourishment through a Beach Nourishment Plan (BNP). The BNP is required to include (as a minimum):

- design conditions at the time of the beach nourishment and for the beach nourishment to achieve after 2 years
- confirmation of the nourishment source
- evidence of any approvals and consents required for the nourishment material
- measures for ensuring nourishment materials do not contain unacceptable contaminants
- specifications for composition of the nourishment material

The BNP also includes the requirement for a detailed construction methodology to limit potential adverse effects on the environment. The sensitivity and ecological values of the coastal environment underpin the recreation amenity values of the Eastern Bays beaches and therefore it is important that these effects are appropriately managed to ensure that recreation amenity is maintained. The management of beach nourishment activities to minimise effects on coastal ecology, in particular the sensitive seagrass beds, is discussed in further detail in section 12.7.2.

Conditions proposed by the applicant also require the implementation of beach nourishment be supported by monitoring for a minimum of two years following beach nourishment being undertaken. This involves the monitoring of beach volumes via 6 monthly beach profiles (or equivalent elevation surveying techniques) over a period of 2 years after construction ends with explicit provision for monitoring to continue if considered necessary by a suitably qualified and experienced coastal scientist or engineer (i.e. adaptive management).

The design conditions of any required 'top ups' are required to be prepared by an experienced coastal scientist or engineer and certified as meeting the design conditions of the beach nourishment in the certified BNP.

Several submitters expressed concern about the success of beach nourishment and felt the nature of material that would be used to renourish the beaches would detract from the natural and recreation amenity values. Having regard to potential effects on seagrass, I note that beach nourishment will be undertaken during the winter months which will provide time for the beach nourishment to

naturalise and 'settle' before use of the beaches is at its peak (summer) which should in part mitigate concerns about effects on recreation amenity values. In relation to mitigation of the loss of recreation amenity within the CMA due to loss of high-tide beach, Ms Hamilton had initial concerns around beach nourishment as a form of mitigation given uncertainty about the success of its implementation. The advice of Dr Dawe has been sought as to the appropriateness and likely effectiveness of the beach nourishment to replace and maintain high-tide beach area post-construction.

Following *Memorandum 5* which included commitment from the applicant to 'topping up' of beach nourishment if deemed to be required by a suitably qualified coastal scientist if initial nourishment was determined to be unsuccessful, Dr Dawe confirmed that he was satisfied with the conditions proposed by the applicant to manage beach nourishment. I have therefore recommended these conditions.

Relying on advice from Dr Dawe who confirmed there is no reason that beach nourishment would not be successful and that high-tide beach areas would be maintained, Ms Hamilton confirmed that beach nourishment to maintain present day beach area is an appropriate mitigation measure for the loss of beach space.

Given the assessment by Ms Hamilton and Dr Dawe, I consider beach nourishment is an appropriate form of mitigation for the loss of usable high-tide beach.

12.2.5 Overall effects on recreation amenity

Should consent be granted, subject to the successful implementation of beach nourishment in accordance with recommended conditions of consent, I am satisfied that the effects of the proposal on recreation amenity will be no more than minor.

12.3 Effects on coastal processes

Coastal defence structures such as seawalls and revetments have the potential to interfere with coastal processes, particularly the breaking of waves, wave run-up and energy dissipation, and sediment transport and deposition. This can cause or exacerbate coastal hazards including erosion, overtopping and flooding. Potential effects of the project on coastal processes include:

- Loss of area available for coastal processes due to reclamation and encroachment into the CMA and coastal zone
- Changes to nearshore hydrodynamics and sediment transport
- Edge effects at seawall transitions and tie-ins and effects on adjacent seawalls

The application includes a Coastal Physical Processes Assessment prepared by NIWA (Coastal Processes Assessment) in Appendix E of the AEE. The Beach Nourishment Design Report is also relevant in terms of the effects on coastal processes.

12.3.1 Reclamation and encroachment into the CMA

The total footprint of the project is 0.55 ha and the total footprint of new works within the CMA is 0.3 ha. However, the demarcation of the CMA does not represent the boundary or footprint of coastal physical processes and the effective "coastal zone" (where coastal processes are active) encompasses subtidal (below lowest low tide), intertidal and supratidal (above MHWS but within wave run-up, splashing and wind-affected areas) zones.

The Shared Path will encroach onto the CMA in places, but also onto the upper beach and upper rock platforms which are currently outside the presentday CMA. The Coastal Processes Assessment has assessed the effective "coastal zone" in the Eastern Bays to be approximately 88 ha. The net loss of coastal zone from the new works is an area of 0.55 ha[17] which represents the total area where the new seawall extends beyond the existing seawall toe. This total encroachment area equates to 0.7% of the total Eastern Bays coastal zone area (88 ha). The position of the CMA boundary will also change with the Shared Path advancing into the CMA.

The Coastal Processes Assessment describes the loss of CMA area that will no longer be available for coastal physical processes to occur within as very small relative to the local scale of each embayment and the regional scale of Wellington Harbour. The effects are likely to be negligible overall but no more than minor in localised areas.

The applicant has proposed the following conditions to manage the effects of reclamation:

- Requiring plans and drawings (including dimensions, cross sections, elevations and site plans) of all areas of proposed structures (including temporary structures), to be submitted for certification prior to commencement of the construction of the project.

- Limiting both permanent and temporary encroachment to the extent identified in the application documents.

Dr Dawe describes that from a coastal hazards and processes perspective, the effects of reclamation will be more pronounced on the small beaches as opposed to the rocky shores and supports proposed mitigation of these effects through beach nourishment at York Bay, Lowry Bay and Point Howard. As noted above, Dr Dawe has confirmed the management plan framework and supporting conditions to successfully implement and manage the effects of beach nourishment are appropriate.

The Coastal Processes Assessment recommended, and Dr Dawe supported, consent conditions to monitor the shape of the beaches before and post-construction to validate the effects of changes to the coastal environment as a result of the proposed seawalls. Following concern about inconsistency in the

[17] While the total footprint the Project area is 0.58 ha (Preliminary Design Plans, Revision J), approximately 5% (0.03 ha) is located inland from the existing seawall toe and represents a small gain in foreshore area (i.e., de-reclamation). In these areas the new seawall is positioned behind the existing seawall toe and a portion of the existing seawall/road area is being returned to the coastal zone.

monitoring duration proposed by the applicant *Memorandum 1* proposed an adaptive monitoring approach with a minimum of 2 years that can be extended if deemed necessary by a qualified coastal scientist. This extension could be for a further 3 years (5 years total) or longer if deemed necessary. Dr Dawe confirmed that this is an acceptable approach and that there are no outstanding concerns with regard to effects on coastal processes as a result of reclamation and occupation. I therefore consider consent conditions to manage coastal processes as proposed by the applicant are appropriate.

Dr Dawe previously recommended some reshaping of existing beach material in some of the smaller pocket beaches and stretches (Mahina Bay and Sunshine Bay) that are not part of the formal beach nourishment mitigation as these beaches could also benefit from a little material being added to them to mitigate potential impacts on coastal processes. Dr Dawe considered encroachment at these beaches did not require formal nourishment because the effects were not significant but suggested that a seaward translocation or reshaping of the existing excavated material on these beaches during construction of the seawalls would be appropriate. I consider that, and Dr Dawe has confirmed, this process can be managed by the construction methodology through the CEMP certification process.

Overall, Dr Dawe has confirmed that effects will be no more than minor. I therefore consider, should consent be granted, that subject to the effective implementation of the recommended conditions of consent, any adverse effects on coastal processes due to loss of area for coastal processes due to reclamation and occupation can be appropriately mitigated to an acceptable level.

12.3.2 Fine sediment generation

There is the potential for higher than existing levels of suspended sediment concentration (SSC) to be generated by reworking of sediments within the coastal construction area by the temporary alteration of nearshore hydrodynamic processes (waves and currents) during construction of the replacement seawalls. This is related to the currents and waves reworking sediments around sheet piling and bunding installed to isolate construction areas from the tide, and scour of stockpiled beach material alongside excavated areas. The effects of construction activities and sedimentation on intertidal and subtidal ecology are assessed in further detail in sections 12.6 and 12.7 below. This section assesses the impact of fine sediment generation on coastal processes.

The Coastal Processes Assessment notes sediment reworking will primarily occur during combinations of high-tides and wave events. The background sedimentation regime within the wider harbour, away from sediment sources such as river/stream mouths and stormwater outlets, is strongly dependent on wind-driven processes.

The Coastal Processes Assessment considers that, as there will only be small lengths under construction any one time, and because the construction works will be predominantly be above high-tide, there will be fewer opportunities to generate, collect and discharge substantial volumes of fine sediments and these opportunities are limited to heavy rainfall and storm events and abnormal tidal conditions (king tides). The additional suspended sediments arising from the

project are expected to coincide with the naturally elevated levels during heavy rainfall or flood conditions and are expected to remain, after reasonable mixing, within the range of natural harbour turbidity levels. The Coastal Processes Assessment concludes this will be a minor effect and proportional to the natural suspended sediment concentrations in the Wellington Harbour.

Regular monitoring of suspended sediment plumes arising from construction works is not proposed due to the limited scale of the works (20 m sections) and that effects are considered to be better managed through source control and treatment methods. The construction methodology and source control and treatment measures are described in section 12.6 below. Conditions of consent have been recommended to ensure the effective implementation of appropriate source control and treatment measures.

Fine sediments may also be winnowed from surface deposits during re-placement of excavated in-situ material between revetment rocks. This turbidity is likely to occur only on the first high-tide after rock placement. The Coastal Processes Assessment describes that if cleanfill is to be used the discharged volume will be small and will have a negligible temporary effect.

The applicant has proposed, and I recommend, consent conditions requiring:

- Imported fill material in reclamations be restricted to clean natural sand, gravels and rock; and
- That a log of the source of all materials used in the rock revetments be maintained on site

I consider these conditions will appropriately manage this effect.

Dr Dawe agrees with the overall assessment of the fine generation of sediment and changes to nearshore hydrodynamics being no more than minor.

Subject to the effective implementation of recommended conditions of consent, should consent be granted, I am satisfied effects on coastal processes attributed to fine sediment generation can be appropriately managed

12.3.3 Hydrodynamic changes and sediment transport

Construction

During construction, staging works will be required to enable construction at all tides (i.e., sheet piling around construction sites, bunds and shuttering systems). These temporary structures have the potential to interrupt natural hydrodynamics and sediment transport within each bay. The potential effects include scour in front of temporary structures, beach lowering and increased wave overtopping adjacent to these structures. The applicant considers these effects are unavoidable and arise from the need to prevent or otherwise minimise the ingress of seawater and prevent accidental discharge of sediments from the construction site.

The primary mitigation for these effects proposed by the applicant is to limit both the extent of construction to a maximum length of 20 m at any one time unless encroaching into the subtidal zone[18]. The Coastal Processes Assessment describes that upon removal of construction staging the beach materials will return to a similar distribution and arrangement as pre-construction, and this recovery should occur over a timespan of days to months depending on climate and wave conditions during and following construction.

The Coastal Processes Assessment describes there are no further construction mitigations related to hydrodynamics or sediment transport which have not been included within the Preliminary Design Plans or Design Features Report. Further design refinements are expected within the detailed design once the contractor has been engaged, but these are expected to further reduce any effects.

Long-term

Changing the size and shape of seawalls and access structures has the potential to permanently affect natural processes which control sediment supply and transfer (both near and longshore sediment transport). Building a structure in the CMA can interfere with wave run-up and energy dissipation, which can cause a change in wave dynamics and sediment transport along the coast. This has the potential to result in sediment moving offshore as it re-adjusts to a new equilibrium.

The Coastal Processes Assessment highlighted the potential for moderate localised effects within some of the bays as a result of beach access structures acting like groynes trapping sediment on one side and preventing sediment accumulating on the other, which may lead to erosion.

The Coastal Processes Assessment states that potential effects on hydrodynamics and sediment transport have been mitigated to a minor effect by providing access points at the ends of beaches and through careful design of transitions between seawall types to minimise interruption of sediment transport pathways. The location and design of these structures and transitions will be finalised through the detailed design phase.

The applicant has proposed, and I recommend, the following conditions of consent to mitigate these effects:

- A condition of consent requiring the provision, and subsequent certification, of detailed engineering plans and specifications before construction can commence.

- An additional condition requiring the provision of "as built" plans covering the finished works, and appropriate certification from a suitably qualified engineer confirming that the new structures and structures have been built in accordance with sound engineering practice, following completion of the works.

[18] the construction length can be slightly longer to allow completion of these works as soon as practicable without having to 'open' a new construction area

The above conditions will provide an opportunity for GWRC to identify any concerns regarding the design of transition areas and tie-ins prior to construction and subsequently provide certainty that the seawalls and associated transitions and tie-ins have been appropriately constructed. As described in section 12.3.1 above, consent conditions have also been recommended requiring the consent holder to monitor the shape of beaches before and post-construction to validate the effects of changes to the coastal environment as a result of the proposed seawalls.

Dr Dawe agrees with the applicant's assessment that the addition of curved seawalls will likely benefit the foreshore by retaining more sediment in the coast and reducing the loss of material out of the system from overtopping. Overall, Dr Dawe agrees with the applicant's conclusion that effects on coastal hydrodynamics and sediment transport processes will be no more than minor.

Based on the advice of Dr Dawe and subject to the effective implementation of recommended conditions of consent, I am satisfied that the effects of the proposal on hydrodynamics and sediment transport can be appropriately managed such that they are no more than minor.

12.3.4 Effects on older and adjacent seawalls

The staged construction of the Shared Path means that at some locations, a new seawall may be adjacent to another older seawall in poorer condition which is less efficient at reducing wave run-up. There is a risk that proposed seawalls, being seaward and of different profile, will deflect waves to an adjacent seawall or another section of seawall which could lead to scouring or undermining and increased wave action on the older seawalls. This in turn could cause more rapid deterioration and increased risk of overtopping.

The Coastal Process Assessment states that effects on adjacent seawalls are unavoidable but can be mitigated to minor through careful phasing of seawall construction to ensure existing seawalls in poor condition that are adjacent to the new seawalls are not left exposed for long periods. Construction is proposed to be staged on a bay by bay basis, with each bay completed in its entirety before a new bay is progressed. As a result, the applicant considers there will be no new and old sections adjacent to one another that will be exposed for any significant duration.

Dr Dawe has confirmed minor effects on the structural integrity of adjacent older seawalls can be managed with appropriate phasing of construction. I have therefore recommended conditions of consent proposed by the applicant which require the construction programme to be provided in a final CEMP, requiring certification from GWRC and HCC Consents, prior to any construction works commencing. I consider this will provide an appropriate opportunity for GWRC to request any changes to the construction programme to further mitigate any potential effects on older seawalls.

Based on the advice of Dr Dawe, I am satisfied that potential effects on older and adjacent seawalls can be appropriately managed such that they can be considered no more than minor.

12.3.5 Edge effects at seawall transitions and tie-ins

Poorly designed transitions between the different seawall types and the tie ins to rocky headlands have the potential to adversely impact coastal processes. Poorly designed and constructed transitions have the potential to cause edge effects (waves wrapping around and focussing energy on nearby structures) which could cause changes to sediment transport patterns and seabed and beach erosion. Poorly designed transitions and tie-ins also have the potential to be a weak point between new defences and may result in overtopping occurring at a higher rate.

The Coastal Processes Assessment considers effects of seawall transitions and tie-ins have been mitigated to a minor effect with appropriate tapering of transitions between seawall treatments as demonstrated within the Preliminary Design Plans and Design Features Report and will be further mitigated with site-specific detailed design.

Dr Dawe has described that edge effects will be most noticeable when seawalls terminate adjacent to a sandy shoreline (or beach). The three main places where this occurs is York Bay, Lowry Bay and Point Howard. In addition, there will be a slight change to wave reflection behaviour where replacement of existing rock revetments with new double curved seawalls occurs within the bays.

The proposed conditions relating to the provision of engineering plans and specifications pre-construction, and as-builts and supporting certification from a suitably qualified engineer post-construction, will provide an opportunity for GWRC to identify any concerns regarding the design of transition areas and tie-ins prior to construction and subsequently provide certainty that the seawalls and associated transitions and tie-ins have been appropriately constructed.

I also recommend an additional consent condition requiring the structures authorised by this consent remain the responsibility of the consent holder and be maintained so that:

- Any erosion, scour or instability of the CMA that is attributable to the structures and works carried out as part of this permit is repaired by the consent holder

- The structural integrity of any structure remains sound in the opinion of a Professional Chartered Engineer

And that any maintenance or repair be undertaken to the satisfaction of GWRC.

This condition will ensure that the consent holder remains responsible for the remediation of any edge effects or scour or instability attributed to the project.

Overall, Dr Dawe considers the proposal will have a minimal effect on other seawall sections and beaches as structures will be suitably engineered to withstand wave reflection and dissipative forces.

Based on the advice of Dr Dawe, and subject to appropriate construction phasing and the effective implementation of the recommended conditions of consent outlined above, I am satisfied edge effects and effects on coastal processes

attributed to transitions between seawall types, can be appropriately mitigated such that they are no more than minor.

12.4 Erosion and design integrity of seawall types

Appropriate design of the proposed seawalls is important for structural stability, durability and also performance. Any erosion beneath the proposed seawalls, if not designed for or able to be remedied in a timely manner, could lead to failure of the seawalls and consequently the Shared Path.

In response to submissions questioning the integrity of the seawall design and resilience against erosion and scour, and further concerns the seawall design will increase erosion and scour of the foreshore, the seawall design has been reviewed by Ms Westlake and Dr Dawe.

Dr Dawe notes the proposed seawall design will cause no more or less scouring than would occur with a purely vertical wall and that all seawalls cause some degree of scouring at the toe of the structure. Dr Dawe notes the design takes this scouring into account and the structures have been designed to have foundations that are footed below the depth of scouring that occurs in the beach, and will be tied back landward preventing structural failure.

Ms Westlake notes that the Coastal Processes Assessment (which references the Design Features Report) describes that erosion and scour and effects on seawall integrity have been appropriately considered. In particular, Ms Westlake references foundation depths for the proposed seawalls, and investigations carried out to evaluate the likely excavations required to ensure the proposed seawalls will be structurally sound while allowing for coastal processes to occur as described in the Coastal Processes Assessment.

Ms Westlake expects that final embedment depths for the proposed seawall will be confirmed through the detailed design phase and peer reviewed by an appropriately qualified and experienced structural engineer and that it is appropriate for this to occur as part of detailed design.

In regard to the structural integrity of revetments, the application states no excavation is anticipated for placement of the rock layers of revetment (outside of the toe) due to the underlying rock/gravel substrate where revetment will be implemented. Ms Westlake notes that if the founding substrate for the revetment toe is sufficiently hard and not able to be eroded (i.e. rock/dense gravel) then minimal keying in of the revetment toe will be required, although she would expect some keying in of the toe for revetment stability and to withstand lateral forces.

Ms Westlake expects the keying in or embedment of rock revetment to be confirmed through detailed design and subject to peer review by an appropriately qualified and experienced engineer.

The detailed design process involves a number of internal reviews and approvals prior to release and the design is ultimately at the consent holder's risk. As noted in section 12.3.3 above, the applicant has proposed conditions (which I have

recommended) requiring the provision of engineering plans and specifications pre-construction, and as-builts and supporting certification from a suitably qualified engineer post-construction. These conditions will provide an opportunity for GWRC to identify any concerns regarding the design of the seawalls before construction commences and subsequently provide certainty that the seawalls have been appropriately constructed.

Additional conditions requiring periodic monitoring of the beaches (as described in section 12.3.1) and requiring the applicant to remediate any scour or erosion attributed to the project (as described in section 12.3.5) provide an opportunity to identify any erosion or scour that can be attributed to the seawalls and ensure that these effects are appropriately managed.

Dr Dawe and Ms Westlake consider standard asset monitoring will pick up natural wear and tear from aging and damage from storms that inevitably occur and will ensure that maintenance can be performed before the seawalls are compromised or fail completely.

Subject to implementation of recommended conditions of consent and based on the advice of Dr Dawe and Ms Westlake as noted above, I am satisfied that proposed seawalls will be appropriately designed such that they are structurally sound and do not exacerbate or increase the effects of erosion or scour.

12.5 Natural character effects

An assessment of effects on landscape and visual amenity and construction effects associated with use of the Shared Path and landward side of the Shared Path is contained within the s42A Report prepared by Mr Kellow.

This section focuses on the adverse effects of the proposal on natural character in the context of the broader coastal environment. The key impacts of the proposal on natural character include:

- Visibility of the new and upgraded seawalls and revetments
- Introduction of a safety barrier to the coastal edge
- Beach nourishment material being a different colour or texture to existing beach

12.5.1 Biophysical effects

In relation to biophysical effects, which relate to changes in landform, vegetation cover and waterways, the LVA considered there to be a small loss of local landform and that overall biophysical effects are Low[19] over the length of the project. 'Low' is akin to a less than minor adverse effect on the seven-point scale used in the LVA. At a local scale there are potentially Moderate effects at Point Howard, north of the beach, and at Sunshine Bay due to the presence of rock revetment structures. These localised effects have been assessed as Moderate. Localised effects are also expected in areas where beach nourishment is

[19] Page 30 Eastern Bays Shared Path Landscape and Visual Amenity Assessment Appendix D

occurring, being Point Howard, Lowry Bay and York Bay, and are assessed as Moderate – Low.

Mr Head's original peer review dated 10 May 2019 concludes that "*the existing treatment of the coastal edge where the proposal is located is currently poor and in need of improvement. The proposal addresses this adequately and represents a net improvement on the coastal edge's appearance and functionality. The extent of the changes closely aligns with the current extent of the modified coastal edge – but not everywhere and so 'moderate' landscape effects will occur in these areas*."

The introduction of safety barriers has no impact on these conclusions and therefore I consider this assessment of the effects on biophysical effects remains valid and I agree the biophysical effects are acceptable.

12.5.2 Natural character

Although the natural character of the Eastern Bays area and in particular the coastal edge has undergone considerable modification, the proposed Shared Path will further modify the coastal edge. Considered over the length of the Eastern Bays, the supplementary LVA describes there is a small loss of local landform, particularly at the headlands because the new and extended revetments will be more visible, particularly at low tide. However, the visual impact of these structures will reduce over time as the edges of the revetment structures weather.

Effects of the rock revetments in Point Howard and Sunshine Bay represent the most pronounced effects on natural character. At Point Howard this is mitigated in part as a result of the proximity of the revetment and path to the Point Howard wharf entry and carparks, and because the revetment replaces an existing revetment. In Sunshine Bay, the effects are related to the location of the revetment within the bay rather than at the headlands which is out of character with the local landform. However, the revetment replaces an existing revetment structure so these localised effects are considered by the applicant to be Moderate. Mr Head agrees with this conclusion.

The supplementary report to the LVA considers that overall, the adverse effects on natural character are Low for the wider Eastern Bays coastal landscape. At a local 'bay' scale the LVA recognises the effects of the Shared Path and seawall will depend on the ability of the design to respond to the local landform and land use patterns, material used for beach nourishment and textures and will range from Low - Moderate. Mr Head agrees effects of beach nourishment practices as proposed will be Moderate-Low.

In relation to the effects of beach nourishment on natural character, the source and management of beach nourishment is proposed to be managed by a BNP. Based on the advice of Dr Dawe, I understand that any effects on natural character will be temporary (albeit for an undefined duration extending from days to months), and although fresh nourishment material will have a slightly different colour (more grey) and may be slightly coarser when first placed, this

material will weather to be more yellow in colour and graded and sorted into finer sizes[20].

Overall, the supplementary LVA considers the effects on natural character will be Low in bays with no safety barrier and localised as Moderate-Low in places where there is a safety barrier. Mr Head considers that the adverse effects on natural character are Moderate where the safety barriers will be present due to the prominence of the barrier around a highly defined edge in the landscape. Where barriers are not proposed, Mr Head's advice is that the adverse effects on natural character will be Low. I note that as described in section 4.2.6 the design and location of safety barriers has yet to be provided by the applicant and poses difficulty with determining the level of effects with any certainty.

To manage potential effects on natural character (and landscape and visual amenity) the applicant has proposed a Landscape and Urban Design Plan (LUDP) be developed with input from an ecologist, engineer, landscape architect, recreation specialist, traffic engineer and urban designer, and in consultation in with Hutt City Council (Parks and Reserves), local iwi, the Eastbourne Community Board, Residents Associations for the respective bays and the Eastern Bays community.

The LUDP is a high-level management plan and is expected to demonstrate how the proposal:

- Establishes and achieves design outcomes
- Integrates the permanent works into the surrounding landscape and urban context and illustrate the landscape and urban design elements of the project
- Will avoid or minimise adverse effects on natural character, landscape and recreational amenity
- Responds to design principles and other relevant management plans
- Responds to relevant industry standards

To manage potential effects at a local scale within each bay, bay specific detailed design is proposed for each of the five bays, to be achieved through Bay Specific Urban Design Plans (BSUDPs) which are a sub-set of the LUDP. The BSUDPs will specifically address the detailed design of the project in the specific bay location.

The BSUDPs will include design details such as:

- Appearance of design features including seawalls and access structures, including transition zones between seawall types
- Safety barriers and railings

[20] Section 2.2.5 of Dr Iain Dawe s42A response dated 31 January 2020

- The treatment of stormwater structures at the coastal interface
- Little penguin and shoreline forager related structures including penguin passage elements, ramps, and nests, boxes and wooden poles for roosting
- The treatment of existing trees and existing landscape and natural features
- The design and orientation of recreation amenity features, spaces and access points
- Signage and storyboards

The applicant proposes to develop the proposal from the current Preliminary Design to a Detailed Design via development of the LUDP and BSUDP(s) supported by proposed conditions of consent.

The BSUDPs will be appended to the LUDP and will be prepared in two stages. The first stage is a draft design protocol prepared and provided to relevant Residents Associations and Community Boards to inform consultation on the design in the respective bays. As part of this process any comments received and the consent holder's response to these comments are required to be forwarded to GWRC (and HCC Consents) to inform the subsequent certification process. The second stage is the final BSUDP submitted to GWRC (and HCC Consents) for certification.

Mr Head states any potential adverse landscape effects (natural character) will be between 'Low' and 'Moderate'[21]. Mr Head considers that while the LUDP process may well result in an improved outcome over what the proposal currently included, an improvement cannot be necessarily guaranteed either. Mr Head finds it difficult to see how much weighting can be placed by the decision-maker on the LUDP (and BSUDP) process as it will occur after the hearing of the proposal and the outcomes remain aspirational. Mr Head remains uncomfortable with the intention to leave resolution of the design to the detailed design and LUDP and BSUDP processes post hearing.

Mr Head has appended suggested recommended revised conditions to his final Position Statement which he considers are more likely to result in positive outcomes for natural character and landscape effects, noting that this does not form an acceptance that conditions are an effective substitute for an adequately resolved and appropriately detailed design.

Further, Mr Head noted in his Position Statement that recommendations in his original peer review related to minimising or mitigating effects on natural character have not been acknowledged by the applicant[22]. These suggestions included:

[21] Jeremy Head Position Statement 16 November 2020
[22] Section 2.3 of the Landscape and Visual Assessment Peer Review dated 10 May 2019

- That a landscape architect (assisted by a geologist) be involved in the selection of any non-local rock material to be used for any revetment

- Careful management of concrete colour to ensure it is as dark, visually recessive and uniform as possible

Mr Head states in his original peer review "*Any adverse effects on landscape and natural character which are currently agreed as being 'moderate' could be exacerbated with poor rock choice to the point these effects will become unacceptable*". In this regard, to ensure effects on natural character are appropriately managed I support Mr Head's request that a suitably qualified landscape architect be involved in the selection of rock material for the revetments. I have therefore recommended a condition of consent to this effect. I am satisfied the concrete colour can be appropriately managed by the LUDP (and BSUDP) process as proposed.

Mr Head has also expressed concern around the timeframes in which the applicant expects reviews of management plans to be 'turned around'. In particular, there is concern that pressure to ensure the project starts as scheduled may result in a need to compromise a quality design and review process. I acknowledge Mr Head's concern but consider risks around timeframes sit with the applicant. Ultimately, if a management plan submitted for certification is not acceptable then GWRC and/or HCC will not certify the plan at which point conditions proposed by the applicant will require the appropriateness of the management plan to be determined by a mutually agreed upon independent expert. I acknowledge this process is proposed to be completed within 10 working days however, having regard to social responsibility across both the regulatory authorities and HCC Transport, I am of the opinion that management plans will not be certified unless they are considered acceptable, regardless of the timeframes specified in consent conditions.

Mr Head considers conditions should allow for hold points at preliminary, developed and detailed design stages for review by suitably qualified and experienced specialists. I consider that the design development process is at the applicant's risk and that hold points for review are not required. It would be in the applicant's best interests to engage with GWRC (and HCC Consents) as the design is being developed but I do not consider a condition requiring review through the detailed design process appropriate. I note that the BSUDP process includes two stages and the first stage requires comments and feedback from the community to be provided to GWRC. In this regard I consider direction that the design protocol, and not just the comments, be provided so the comments can be understood in context, to be appropriate and therefore recommend a condition to this effect. This may provide some further visibility as to the design and provide opportunity for feedback or comment in advance of the final BSUDP being submitted for certification. Ultimately, as above my expectation is that management plans and supporting design plans will not be certified until they are considered acceptable.

For the most part, having regard to natural character, Mr Head's revised conditions have been reflected in recommended conditions of consent. Subject to the amendments recommended by Mr Head as outlined above, I consider the

LUDP and BSUDP process can achieve an acceptable outcome for natural character but this is contingent on the LUDP and BSUDP process so an absolute conclusion on the level of effect cannot be made at this time.

Should consent be granted, subject to the effective implementation of recommended conditions of consent, I consider that adverse effects on natural character are likely to be no more than minor.

12.6 Effects on water quality

Effects on water quality are associated with the construction of the proposed seawalls and revetments which require disturbance to the seabed and foreshore both within and on the boundaries of the CMA. The production of turbid plumes from construction and dewatering discharges and the potential for cement and other contaminants to enter intertidal areas are other potential effects that could arise during construction.

12.6.1 Effects of cement and other contaminants

The biggest risk to water quality and marine ecology during construction is the release of cementitious products during pouring of the concrete seawalls and footings.

The release of untreated cement-contaminated water into the intertidal zone of the construction sites could locally alter pH and cause significant adverse effects on the local ecosystem, particularly if it is concentrated in intertidal areas during low tide.

To manage these effects the applicant has proposed the implementation of specific controls for the pouring of concrete in the construction methodology contained within the Design Features Report. These controls include:

- Pouring concrete in dry conditions, or where this is not possible, containing and treating the contaminated water before pumping it to the wastewater (trade waste) network for treatment
- Where pumping to trade waste is not possible, containing the contaminated water and pumping to a treatment structure (such as a container) where the water can be treated to a level suitable to enable a discharge to the local receiving environment
- If discharging treated water to the environment (either directly or indirectly via the stormwater network) is determined to be appropriate then this is to be done at high-tide when there is the greatest potential for dilution
- Monitoring the pH of any water on site to ensure no contaminated water is entering the receiving environment
- Providing appropriate wash down facilities for all concreting equipment

The applicant proposes to incorporate construction measures to isolate, contain, and treat water potentially contaminated by wet cementitious products into a final CEMP to be submitted for certification by GWRC (and HCC Consents) prior to construction commencing.

The proposed construction methodology restricts construction activities to short working lengths (of up to 20 m continuous length within a construction site) which will also limit the potential for cementitious contamination, as it will help to minimise the extent and duration that a site is exposed and be much easier to monitor and maintain than a larger construction footprint. This will be particularly important in areas where there are nearby rock pools where a small amount of pH altered water discharged at low tide could have significant adverse effects and result in the mortality of resident biota. There is also greater risk relating to cementitious products for six locations where the construction zone may extend within the subtidal area. This is because works below the low tide mark may make it harder to maintain a dry site and maintain effective controls which will increase the risk of adverse effects.

Dr Oliver has confirmed that overall, she is satisfied with proposed mitigation measures but is concerned about the ability to separate construction areas, and therefore cementitious products from water when works encroach on the subtidal zone. However, Dr Oliver accepts that a contractor has not been engaged and is comfortable that the methodology for managing cementitious products and cement laden water be provided in a CEMP requiring review and certification prior to construction.

The applicant has proposed (and I have recommended) conditions of consent to reflect the mitigation measures described above. I further note that proposed mitigation measures in the construction methodology contained in the Design Features Report are consistent with those applied across consents for structures within the CMA in the Wellington region.

Based on the advice of Dr Oliver, and on the basis that a final CEMP, prepared in consultation with the contractor, confirms measures to manage cementitious products and cement laden water, is submitted and certified prior to construction commencing, I am satisfied the potential effects associated with the pouring of cement and use of cementitious products during construction can be kept within an acceptable level.

12.6.2 Effects from sedimentation and other contaminants

During the construction phase, disturbance of the seabed, dewatering discharges and discharges from land-based earthworks will result in increases in suspended sediment and turbidity of the water column. Increased turbidity reduces light penetration and consequently visibility in the water column, impacting primary production of benthic biota and thus reducing a key food source of suspension feeders, herbivorous benthic grazers and deposit feeders. This could have effects on plankton and fish in the water column and benthic biota which could impact on the availability of food sources for benthic and pelagic algae and foraging seabirds.

If the disturbed area is contaminated (i.e. areas of disturbance adjacent to Sunshine Bay Garage), this could also result in the introduction of contaminants to the CMA.

Anticipated sedimentation effects associated with construction activities include:

- Temporary disturbance of existing beach sediment and beach profile by machinery working from the beachfront and excavating unconsolidated beach deposits
- The introduction of terrigenous (i.e. land-based) sediment to subtidal and intertidal environments during earthworks and seawall construction activities
- Potential for unanticipated fine sediment deposits below seawall footings
- Increase in sediment run off and the increase in contaminants entering the receiving environment as a result of dewatering.
- Increases in suspended sediment in the water column due to beach nourishment (effects of beach nourishment and sedimentation from beach nourishment are addressed in section 12.7.2).

Of particular concern is the potential for suspended sediment from construction activities and beach nourishment to smother the seagrass beds in Lowry Bay (effects on seagrass are addressed in section 12.7.2).

As is the case for cementitious products, the greatest risk of sediment release comes from the areas where the construction footprint is within the subtidal zone. This is because these areas will likely be permanently wetted and therefore it is expected to be more challenging to install and maintain sediment control measures.

The Intertidal Ecology Assessment has assessed the impact of construction related activities on water quality based on the construction methodology presented in the Design Features Report. The construction methodology includes a number of measures to reduce construction effects relating to the release of sediment and other contaminants that may affect water quality. In summary, the applicant proposes to mitigate effects resulting from sediment and other contaminants entering coastal waters through:

- Minimising the use of machinery in the CMA
- Machinery working on the beach floor/intertidal area will use biodegradable hydraulic fluids and will not be stored or refuelled on the beach.
- Refuelling and carrying out maintenance outside of MHWS and away from watercourses

- Keeping a spill kit on site at all times, to contain any accidental spills relating to machinery working in the foreshore area

- Separating native from non-native material, stockpiling native material nearby and removing crushed rock from reef or headland platforms to minimise the potential for fines to enter the water column

- Isolating the construction areas from the marine environment using bunds or other devices to contain and isolate the construction area from the incoming tide until construction is completed

- Minimising working lengths (of up to 20 m continuous length within a construction site) to limit the potential for contaminants to enter the CMA.

- Treating dewatered water from the general excavation footprint for sediment and either discharging to trade waste (where sediment concentrations are unusually high) or pumping treated water directly back to the CMA

- Avoiding exposure of non-native backfill to coastal waters

- Where dewatered water is expected to contain contaminated material or sludge is present, sampling from the area of the excavation to identify concentrations of contaminants present to determine whether any further filtration or specific treatment of the discharge is required. If the sampling confirms contaminants the water will be contained within the excavation and pumped to a container and once settled removed by sucker truck or excavator and disposed of off-site, or discharged to trade waste.

- Implementing appropriate site monitoring and management to monitor weather conditions to anticipate any weather and high-tide events that may lead to high seas (and risk overtopping of controls) and plan mitigation measures accordingly

- Implementing and managing erosion and sediment controls in accordance with the *Erosion and Sediment Control Guidelines for the Wellington Region*

- Keeping sediment generation to a minimum during the construction through the use of crushed material that is clean of fines

In addition, in relation to construction that encroaches into the subtidal zone which will have a greater risk of contamination, the Intertidal Ecology Assessment recommended the following additional mitigation measures:

- Demarcate the actual location of the low tide line and determine if the subtidal zone is in fact within the 5 m construction width.

- If the subtidal zone is confirmed to extend into the 5 m construction width than narrow the construction width such that all construction activity remains outside of the subtidal zone.

- If it is not possible to narrow the construction zone sufficiently to remain outside of the subtidal zone then undertake measures to isolate the construction site from the subtidal area such that the site is effectively contained

- Extending the length of the construction zone beyond the proposed 20 m length if this allows for a single subtidal area to be contained in the one site[23] (rather than having to contain the subtidal area over two adjacent sites).

These measures are generally consistent with those applied during construction works for structures in the CMA and are generally appropriate in my opinion. The applicant proposes to incorporate measures to control sediment during construction works into a final CEMP to be submitted for certification by GWRC and HCC Consents prior to construction commencing.

The Intertidal Ecology Assessment concludes subject to proposed mitigation effects of suspended sediment in the water column will likely be short lived.

While there is likely to be a small (albeit undefined) increase in sediment inputs during earthwork and construction activities, it is equally likely that the biota in the receiving environment will be tolerant of some temporary increase in suspended and settled sediment since similar situations result from storm events. It is not anticipated that the potential volumes of sediment generated during this project would be sufficient to cause any modification to local habitat.

I note that the Coastal Processes Assessment describes that, in accordance with best practice environmental management, it is recommended that the CEMP include provision for visual observations of turbidity and suspended sediment which trigger an action to review sediment control features and records. However, the CEMP and construction methodology, and the supporting conditions outlining minimum information requirements for the final CEMP proposed by the applicant, do not include any provision for appropriate management or compliance trigger limits and associated monitoring requirements for turbidity and/or visual clarity. I have therefore recommended a condition requiring the CEMP include the requirement for the consent holder to develop management trigger limits and supporting monitoring and reporting actions in consultation with GWRC advisors. The purpose of the management triggers is to assist in the early identification that the quality of discharges related to construction works is decreasing and that on-site management requires investigation. If monitoring indicates that the management trigger is exceeded, as a minimum the consent holder shall:

[23] The estimated lineal distance for sections in the subtidal zone that may extend beyond 20 m are a 32 m length in northern Lowry Bay and a 24 m length in southern Mahina Bay.

- Undertake an audit of all erosion and sediment control measures
- Remedy the cause of the exceedance
- Investigate and record why the exceedance occurred
- Record the conditions at the time of the exceedance

The applicant has proposed, and I recommend, additional conditions that require a record to be kept of any incidents during the construction period, including spillages or unauthorised discharges and for the consent holder to notify GWRC of any such incidents within 1 working day. I have recommended a condition requiring that any exceedance of the management triggers be subject to this same process and logged in this record.

To further mitigate potential effects of sediment on water quality I recommend:

- An additional consent requiring that where the discharge of sediment laden water is to stormwater or the CMA, the sediment concentrations shall not exceed $100g/m^{3,}$ and the addition of
- The GWRC standard condition requiring that any discharge to the CMA shall not cause:

– The production of any conspicuous oil or grease film scums or foams, or floatable or suspended materials
– Any conspicuous change in the colour or visual clarity
– Any emission of objectionable odour

beyond the zone of reasonable mixing (being 50 m from the point of discharge);

or any significant adverse effects on aquatic life.

12.6.3 Overall assessment of effects on water quality

Dr Oliver has reviewed the application and supporting Intertidal Ecology Assessment with regard to the impacts of sedimentation and other contaminants on marine ecology during construction and is satisfied with proposed mitigation measures.

Dr Oliver has responded specifically to concerns from submitters regarding the ongoing disturbance and associated discharges during the construction period and the request for a CEMP to be provided in advance of a hearing. Dr Oliver notes that the provision of a draft CEMP would provide collective reassurance that that impacts on water quality can be appropriately managed and significant adverse effects can be avoided. I note the applicant has provided an indicative construction methodology and has included a description of relevant potential construction management measures in the Design Features Report submitted in support of the application.

The applicant has also proposed a condition of consent requiring a final CEMP be submitted and certified by GWRC and HCC Consents prior to any

construction works commencing. I do not consider the provision of a draft CEMP in support of the application would provide any additional certainty that effects can be managed over and above what has been presented by the applicant. This is because a contractor has not yet been engaged and therefore any methodology or measures proposed by the applicant will be indicative only, and subject to change during the detailed design and contractor procurement processes.

Subject to the effective implementation of recommended conditions, should consent be granted, I am satisfied the potential effects on water quality during construction works can be kept within an acceptable level.

12.7 Construction effects on intertidal and subtidal ecology

12.7.1 Effects on intertidal and subtidal rocky shore ecology

The Intertidal Ecology Assessment also considers effects on subtidal rocky shore habitat during construction. Dr Oliver has reviewed the Intertidal Ecology Assessment and considers the sampling methods and subsequent taxonomic and statistical analyses to be appropriate. Dr Oliver agrees with the characterisation of the habitats, infauna, macroalgae and sediment contamination, and with the conclusion that the community composition is what would be expected for this section of coastline and is similar to that found elsewhere in Wellington Harbour. I therefore accept the characterisation of the existing nearshore environment.

Construction of new seawalls and replacement of existing seawalls has the potential to impact the environment through the direct physical disturbance of the intertidal and subtidal habitat through compaction of material and crushing of biota during tracking of plant and construction vehicles. In particular, excavation and subsequent construction of seawall structures will likely involve the mortality of the organisms present within the excavation footprint.

A temporary construction zone from the bottom of the seawall will be required to enable construction, which may in some areas require the use of machinery in the foreshore area to assist in the excavation of materials prior to installation of the new seawalls. Over the proposed 20 m maximum continuous length of seawall able to be constructed at any one time this equates to 100 m^2 for curved seawalls and 60 m^2 for revetments.

The applicant's construction methodology in the Design Features Report outlines proposed measures to reduce construction effects relating to the direct effects on intertidal ecology. Many of the measures to minimise the effects of potential discharges to the CMA described in section 12.6 also apply to physical disturbance during construction activities and these measures are not repeated here. Additional measures the applicant proposes to mitigate direct effects (crushing and mortality) on intertidal ecology during construction include:

- Machinery working in the foreshore/harbour floor will track across weight-bearing mats to reduce compaction of softer substrate and help to protect the intertidal surface structure within the beach areas.

- Keeping the tracking of machinery to one path (to the extent practicable). This will provide a defined path for the machinery to work from, further reducing impact to the beach/harbour floor substrate

- Minimising the use of any excavator or construction plant to limit damage

- Keeping the area of disturbance to the absolute minimum required to construct the seawalls.

- Separating native from non-native materials, disposing of non-native material and stockpiling native material nearby to facilitate recolonisation after construction of each wall section as appropriate

- Undertaking fish and invertebrate rescue and salvage prior to construction

The applicant proposes to incorporate the above measures into the final CEMP to be provided for certification (and certified) prior to works commencing in accordance with recommended conditions.

The Intertidal Ecology Assessment considers based on implementation of mitigation measures outlined above it is likely that any localised effect due to construction on the benthic community will be short-lived, with an abundant colonist source from the adjacent areas and lower tidal areas available to re-colonise the affected foreshore following construction.

Dr Oliver has reviewed the proposal as it relates to direct impacts on intertidal ecology during construction of the seawalls and has confirmed that measures to minimise direct impacts on intertidal rocky shore ecology are generally consistent with best practice. However, she expressed concern about contractors checking rock pools and relocating fish and marine organisms. Dr Oliver recommends that a marine ecologist carry out this task or at the very least be supervising any salvage and relocation of marine life, unless the contractors have a qualified environmental manager on site capable of doing this. I have therefore recommended a condition of consent requiring that any checking of rock pools or relocation of fish or marine organisms be supervised by a suitably qualified professional.

Several submitters expressed concern about the impact of machinery on coastal formations and flora and fauna during construction and future maintenance activities, requesting that a draft CEMP be provided in support of the application to provide certainty that effects can be managed. The applicant has included a description of relevant potential construction management measures in the Design Features Report and the conclusions reaches in the Intertidal Ecology Assessment are based on these measures. Based on my experience, these measures are generally in accordance with best practice and reflect the construction management measures applied across other consents for coastal structures within the Wellington region.

Based on the advice of Dr Oliver, should consent be granted, subject to the effective implementation of the recommended conditions of consent, I am satisfied any direct effects on intertidal (and subtidal) rocky shore ecology associated with construction can be appropriately managed to an acceptable level.

12.7.2 Effects on intertidal and subtidal beach ecology during beach nourishment

Dr Oliver has reviewed the Beach Nourishment Assessment and finds the sampling methods, analyses and subsequent conclusion about the beach infauna and habitat to be appropriate and reasonable. I therefore accept the characterisation of the existing intertidal and subtidal beach environment.

Proposed beach nourishment has the potential for both short-term (initial introduction of beach material) and medium-term (natural redistribution of beach nourishment material) adverse effects on intertidal and subtidal beach ecology. These effects include:

- Disturbance and compaction of habitat during excavation and use of machinery on beaches
- Smothering of intertidal beach ecology through initial placement of beach nourishment material and movement of nourishment material beyond initial placement sites
- Increases in turbidity as a result of placement of beach nourishment material and re-distribution of nourishment material in the longer term.

These effects are described in further detail below.

Disturbance and compaction

Driving on the beach and associated physical disturbance will be required to implement beach nourishment at Point Howard, Lowry Bay and York Bay. Formation of the high-tide bench above the high-tide level and excavators working along the beach have the potential to result in mortality of intertidal biota through crushing and compaction of habitat.

The Beach Nourishment Assessment describes the benthic community found in these areas is of low diversity and density and likely to recover quickly from disturbances. The assessment notes that there is also a nearby source of invertebrates for recolonisation following completion of the construction activities. I also acknowledge that much of the initial excavation and disturbance for the seawall and initial high-tide bench at the beaches will occur above MHWS and as such will minimise the effect on the intertidal benthic community.

Many of the proposed measures to minimise the effects on intertidal and subtidal rocky shore ecology will also apply to the management of effects on intertidal beach ecology during construction. Based on recommended conditions described above, I am satisfied these measures will be appropriately incorporated

into the final CEMP requiring certification prior to construction and therefore these measures are not repeated here.

Additional measures recommended in the Beach Nourishment Assessment include:

- All machinery used for the redistribution of excavated beach material (from the construction of the seawall itself) to create a bench above the high-tide line shall remain above MHWS, and all bench material is not to extend below the MHWS line.

- Timing the addition of beach nourishment to follow seawall construction within the Bay as closely as possible to minimise the duration of disturbance

These measures do not appear to have been provided by the applicant through proposed conditions. I have recommended these measures be included in the requirements for the construction methodology in the BNP to further mitigate potential adverse effects on intertidal and subtidal habitat during beach nourishment.

In relation to the subtidal zone, the applicant has proposed (and I have recommended) conditions of consent requiring:

- the construction area in the subtidal zone is the absolute minimum required to complete works safely and to avoid the use of machinery in the subtidal zone unless there is no practicable alternative.

- during works in the construction zone that any large rocks colonised by biota (greater than 0.4 m that can be safely moved) be relocated to a nearby subtidal zone unaffected by construction works. Upon completion of the works in consultation with a suitably qualified ecologist the consent holder shall determine whether the rocks are left in the new location or returned to the original location, or relocated to another suitable subtidal location.

Smothering and burial of intertidal ecology during placement of nourishment material

Initial placement of nourishment material will result in the burial of infauna and is expected to result in the loss of the benthic community within the intertidal zone. These effects cannot be avoided as the beach nourishment is a critical element of the proposal.

The Beach Nourishment Design Report describes that beach nourishment is expected to have a maximum depth of 0.6 m above the high-tide mark and the Beach Nourishment Effects Assessment considers few taxa would be expected to survive the initial placement activity at this depth.

However, the Beach Nourishment Assessment notes this material will be introduced to a zone that has low diversity and density of taxa, and there will

remain intertidal zones within the bays where the material is not added with similar infauna community structures, which will act as recolonisation sources. Further, the intertidal zone is dominated by polychaetes, which recover quickly from disturbances, and crustaceans, which are highly mobile and actively move away from unfavourable conditions. The Beach Nourishment Assessment concludes effects are expected to be short-lived with recolonisation to occur relatively quickly post disturbance.

The Beach Nourishment Assessment also describes an alternative construction methodology for beach nourishment where placement of material could be staged and placed in smaller volumes across two or three treatments instead of one treatment to maximise the ability for infauna to survive initial placement. I have recommended a condition requiring that the applicant must undertake beach nourishment in accordance with this methodology unless they can provide suitable justification that it is not practicable or will result in adverse effects that are greater than placement in one treatment.

The applicant has proposed (and I recommend) conditions of consent requiring monitoring of intertidal and subtidal benthic fauna, designed by a suitably qualified ecologist, to be undertaken at least 12 months following beach nourishment in each bay to assess whether significant effects on intertidal or subtidal biota have occurred. This monitoring will be used to inform any required 'top ups' of beach nourishment material to ensure adverse effects of any future nourishment are avoid or otherwise minimised.

Dr Oliver agrees with the assessment that there will be high immediate mortality following deposition of sand, but that recolonization will be reasonably quick. Dr Oliver also strongly supports the inclusion of post-nourishment monitoring after 12 months. Based on the advice of Dr Oliver, and subject to effective implementation of recommended conditions of consent, I am satisfied that effects on intertidal and subtidal beach ecology due to beach nourishment will be no more than minor.

Sedimentation (re-deposition) and turbidity

In addition to the initial introduction of beach nourishment material into the intertidal zone, there is the potential for sedimentation effects to occur within the wider intertidal zone and extend into the subtidal zone as nourishment material is redistributed by tide and waves.

On the basis that the introduced beach nourishment material will become redistributed in the subtidal zone via natural processes, and because the nature of the material being introduced will be similar to the in-situ material, the Beach Nourishment Assessment stated it did not expect the redistribution of sediment to be significantly dissimilar to the natural redistribution of marine sediments within the embayments.

The Beach Nourishment Assessment notes small shifts in community composition may occur at some locations as a response to the shifting beach nourishment material, but it is unlikely to greatly change the overall community

composition of the subtidal area due to the similarity of beach nourishment material to the in situ material, lack of fines in the introduced material, the localised nature of the sediment movement, the already dynamic nature of the nearshore environment, and the similarity in the subtidal benthic invertebrate community within and between the bays that will allow for recolonisation.

Increased turbidity may be experienced during the initial introduction of beach nourishment material into the intertidal zone. Over a period of weeks to months following this introduction, the sediments will also undergo a stabilisation period where changes to the beach state and profile will occur and which may also result in some increase in turbidity if sediments become re-suspended.

The Beach Nourishment Assessment recommends that the mitigation measures adopted for construction of the seawall continue to apply (refer to section 12.7 above) and the following additional mitigation measures be adopted:

- Electing sand/gravel from a marine source that limits the potential release of minerals and fines typical of land based sources
- Selecting sand/gravel gradings that match or are coarser than the in situ sediment and restrict the proportion of finer material
- Forming the high-tide construction bench with a slightly over-steepened profile so that the existing beach sediments are more exposed to wind and wave action
- Only transferring and shaping the beach profile during lower tide levels.

These mitigation measures have been included in conditions proposed by the applicant as part of the construction methodology requirements in the BNP and will be managed as part of the BNP process. I am satisfied with the intent and scope of these conditions and therefore recommend them.

Dr Oliver has confirmed she is satisfied with the conclusions of the Beach Nourishment Assessment (based on the findings of the Coastal Processes Assessment) which describe that turbidity resulting from beach nourishment activities is highly unlikely to exceed ambient conditions.

Based on the advice of Dr Oliver, and the advice of Dr Dawe related to generation of fine sediments, should consent be granted, subject to effective implementation of recommended consent conditions related to the selection and subsequent placement of beach nourishment material managed through the BNP process, I am satisfied potential effects related to sedimentation and turbidity can be appropriately managed such that they are no more than minor.

12.7.3 Assessment

Based on the advice of Dr Oliver and subject to the effective implementation of conditions of consent, I am satisfied effects on intertidal and subtidal beach ecology can be appropriately managed such that effects are no more than minor.

12.8 Effects on seagrass

Three seagrass (*rimurēhia, Zostera muelleri subsp. novazelandica*) occurrences of varied densities were found in the intertidal and subtidal zones at south Lowry Bay (total area 1,940 m^2). A small number of flowering shoots of seagrass were found, an indicator of good seagrass health. Seagrass has a threat status of "At Risk-Declining" and the seagrass occurrence at Lowry Bay is the only known occurrence remaining in Wellington Harbour.

A number of the applicant's technical reports address the potential effects of beach nourishment on seagrass meadows. These include the Coastal Processes Assessment, the Coastal Vegetation and Avifauna Assessment, the Beach Nourishment Assessment and the Beach Nourishment Design Report.

Dr Oliver requested further consideration be given to monitoring and mitigating the impact of sedimentation and changes in hydrodynamics on these meadows. The applicant's response to further information in *Memorandum 2* responded to Dr Oliver's concerns regarding seagrass. This response included a memorandum[24] prepared by Dr Fleur Matheson, Aquatic Biogeochemist, NIWA, addressing concerns about the adequacy of mitigation proposed by the applicant's experts.

The memorandum prepared by Dr Matheson[25] has summarised the mitigation measures proposed by the applicant's respective experts in the various application documents. These measures include:

- Separation and disposal offsite of silts and clays in beach excavation sediments
- Use of beach nourishment sediments that are similar or slightly coarser than in situ sediments, that will maintain the existing profile without spreading onto seagrass beds
- Excluding fine sediments from beach nourishment sediments; and undertaking beach nourishment in winter when seagrass metabolism is least active
- Carrying out the beach nourishment over the winter months where sea grass beds are not growing significantly
- Forming the high-tide construction bench with a slightly over-steepened profile
- Only depositing as much sediment on the bench as can be transferred along the placement area in the day of placement
- Placing imported beach sediment along the entire designated placement area rather than in one discrete location.

[24] Response to further information Memorandum 2: Annexure 2: Report on Seagrass – Dr Fleur Matheson, NIWA

- Only transferring and shaping the beach profile during lower tide levels.

In addition to the mitigation measures above, Dr Matheson recommended the following measures to ensure protection of the seagrass beds:

- Testing beach nourishment material for contaminants prior to the approval of such materials for use in any beach nourishment. Contaminant levels must be below the ADAWR (2019) Default Guideline Values, as well as the Auckland Council's more conservative Environmental Response Criteria for heavy metals (ARC, 2004).

All of the above mitigation measures have been adopted by the applicant and are reflected in the minimum requirements of the construction methodology under the BNP which is a recommended condition of consent.

The following conditions of consent recommended by Dr Matheson have also been proposed by the applicant as part of separate conditions related to avoiding adverse effects on seagrass:

- Marking out the location of the seagrass beds (with a series of small bright marker pegs around the perimeter) to ensure that construction crews are clear about their whereabouts during works activities

- Monitoring of the seagrass beds before and after construction activities to confirm that there is no net loss of seagrass extent and cover resulting from any unforeseen physical encroachment of beach nourishment materials into the beds, increased turbidity or altered hydrodynamics

Dr Matheson noted that any monitoring needs to account for natural seasonal fluctuations in seagrass extent and cover given seagrass beds tend to senesce (i.e., naturally decline in extent and cover) during autumn and winter. Generally, this requires that if "before" monitoring occurs in winter, then "after" monitoring should also take place in winter to ensure results are assessed against the same 'baseline'.

Memorandum 2 included an assessment against the 'mitigation hierarchy' prescribed under Policies P32 and P41 of the PNRP[26]. This assessment described that there will be no physical encroachment on seagrass meadows and the proposal will therefore avoid areas of seagrass. Dr Oliver has confirmed that she is satisfied that the final detailed design of the cycleway and beach nourishment will be undertaken to ensure there is absolutely no encroachment on seagrass habitat[27]. Based on the information provided by the applicant and their proposed conditions of consent prepared in consultation with Dr Matheson (which I recommend) I am satisfied that direct effects on seagrass will be avoided.

In relation to potential effects on seagrass as a result of sedimentation arising from construction activities and beach nourishment, Dr Oliver has confirmed she is broadly satisfied with the response of Dr Matheson and agrees with the proposed monitoring approach for delineating the seagrass meadows ahead of

[26] The decisions version of the PNRP has since superseded this assessment and requires that effects are avoided.
[27] Memorandum from Dr Megan Oliver dated 14 February 2020

construction and monitoring the patch size and density before and after nourishment. Dr Oliver recommended periodic visual assessment of sand deposition near and around the meadows would be useful to assess how the nourishment material is settling in and around the meadows. I agree with Dr Oliver and have therefore recommended a condition requiring monthly visual assessment of the seagrass beds. The results of these visual assessments shall be provided to GWRC as soon as is practicable.

Dr Oliver considers offsetting for any net loss of seagrass is not a viable option and the project is required to avoid all adverse effects on seagrass.

Based on the advice of Dr Oliver, should consent be granted, subject to the effective implementation of recommended conditions of consent, I am satisfied that potential effects on seagrass can be avoided or otherwise minimised such that adverse effects are likely to be less than minor.

12.9 Permanent loss and modification of intertidal habitat

The Intertidal Ecology Assessment considers the effects of the proposal on intertidal ecology due to the permanent modification and loss of habitat.

The long-term effects to intertidal ecology within the project area relate to the permanent loss of habitat due to additional encroachment into the intertidal area and permanent changes to the seawall surface. The proposal will result in the permanent loss of 3,000 m^2 (0.3 ha) of intertidal habitat and an additional 2,500 m^2 (0.25 ha) of backshore habitat above MHWS (refer Table 3). As affected backshore habitat is located above MHWS and therefore not impacted by tidal conditions, resulting in a lack of suitable habitat for intertidal biota, the effects of additional encroachment above MHWS are not considered further. In addition, the footprint of proposed seawalls remains wholly outside of the subtidal zone. This assessment therefore focuses on the permanent impacts on biota and habitat within the intertidal zone.

Of the proposed seawall types, three will occur within the intertidal zone - triple curved seawall, double curved seawall and revetment. Single curved seawalls are located wholly outside of MHWS and are assessed to have a negligible impact on intertidal ecology and therefore are not assessed further.

The Intertidal Ecology Assessment assessed the scale of effect based on the extent of encroachment into the tidal zone; the further the encroachment the greater their potential impact on intertidal ecology (i.e. high encroachment represents high impact). The rankings include:

- high encroachment zone (totalling 299 m) - represents seawalls encroaching beyond the existing seawall toe into the low-mid tide zone where diversity and density of taxa is greatest.

- medium encroachment zone (totalling 1,483 m) - represents seawalls and access structures which extend beyond the existing seawall toe into the mid-high-tide zone

- low encroachment zone (totalling 170 m) - represents proposed seawalls in the intertidal zone which do not extend beyond the toe of the existing seawall[28].

- not applicable (N/A) (totalling 1,191 m) – no encroachment as the seawalls are located wholly outside MHWS

Generally speaking, the areas of greatest encroachment and therefore the greatest impacts on intertidal ecology occur where the revetment treatment types are proposed. However, the areas of revetment (totalling 0.15 ha), whilst representing the greatest level of encroachment, also re-create a rocky shore environment that will be available for intertidal biota to colonise upon completion. For the curved seawalls, the level of additional encroachment within the CMA represents a complete loss of intertidal habitat (totalling 0.15 ha), as the foreshore will be in-filled behind the vertical seawall.

The loss of intertidal ecology cannot be avoided because encroachment into the intertidal zone is required to facilitate the width required to construct and operate (and protect) a functional and safe Shared Path. However, the Intertidal Ecology Assessment considers that the proposal appropriately mitigates the loss of habitat (0.3 ha), in part because the proposal is to replace existing seawalls rather than create new seawalls[29]. The applicant has worked to minimise the extent of encroachment into the CMA through the iterative design of the seawalls and types of treatments used in certain locations (the use of a single instead of double curved seawalls in some beach locations) and by orientating beach access steps and ramps parallel to the seawall. In addition, the Intertidal Ecology Assessment considers there is some ecological benefit to the proposed curved seawalls over and above existing seawalls because the curved face will provide shade and help to maintain humidity which is critical to the survival of biota during tidal exposure. The application and the Intertidal Ecology Assessment describe further opportunities to minimise encroachment will be investigated during detailed design.

The applicant proposes to further mitigate the loss and modification of intertidal habitat by providing texture and habitat complexity on the surface of the seawalls and revetments to facilitate colonisation of intertidal biota post-construction. The methods to provide habitat complexity or assist in the recolonisation process described in the Intertidal Ecology Assessment are summarised below:

Curved seawall

- Using liners/void formers to cast textures into the concrete surface of curved seawalls during the in-situ casting of the concrete

- Creation of 'weep holes' along the length of curved seawalls immediately above the lowest step of the curved wall (to drain across the

[28] It is noted that no mitigation or remediation of effects is required for seawalls which fall in the low encroachment zone as there is no additional encroachment into the CMA and therefore no additional loss of habitat

[29] the Intertidal Ecology Assessment has cited evidence that the foreshore surrounding structures such as seawalls supports less diversity than natural intertidal environments

top surface of the step) and the second step for the triple-curved treatment[30]

- Re-using existing larger natural weathered rock material that has been colonised by intertidal biota nearby by placing it in front of the new seawalls after construction of each section to facilitate colonisation of the new surfaces and disturbed construction footprint area, and help to create and improve habitat immediately in front of the new seawalls

Revetment

The applicant acknowledges there is a risk the rock type used in the revetments may not be as suitable for colonisation by intertidal biota due to it being 'hard' wearing compared to the softer in-situ rocky shore material which weathers and provides crevices and depressions for biota. The applicant proposes to further mitigate this risk through creation of habitat complexity and features suitable for colonisation within the revetment structures. Such measures include:

- Using natural rock/cobble substrate within the construction area that would otherwise be removed during construction or lost beneath the seawall to construct the revetment[31].

- Drilling or casting rock pools into the surface of some of the hard revetment rock within the mid-tide area of the seawall following construction of the revetments

- Reducing the footprint of the revetment seawall types through the following options, where it is possible to do so without compromising on structural integrity, overtopping protection, or coastal processes:

  - Increasing the slope of the revetment.
  - Reducing the rock size to reduce the width of flat area at the top of the revetment
  - Reducing the width of the flat area at the top of the revetment to be two rock diameter instead of three

Dr Oliver noted that enhancing what would otherwise be smooth concrete walls with textures to provide habitat complexity will be essential for mitigating the impacts of the project and was strongly supportive of the addition of rock pools drilled or caste into the steps of the curved walls and into the hard revetment rock. Dr Oliver recommended the provision of additional habitat above the present-day intertidal zone (within the low encroachment zone) for future ecological resilience to sea level rise. The applicants *Memorandum 6* responded to concerns raised about whether these recommendations were being

[30] weep holes are being included as part of the engineering design (for drainage) but will also provide some small habitat benefit where the weep holes are within the intertidal zone.

[31] To maintain the integrity of the revetment this natural rock should not be used as bulk fill within revetments. However, this 'won' rock can be reused in various ways onsite, including being deposited on rock platforms to be broken/dispersed by waves, or manually placed into voids in the rock revetment as habitat. This material can be stockpiled and then placed following completion of the rock revetment, and should maximise the range of rock sizes

implemented and confirmed recommended habitat enhancement measures would be adopted as part of a standalone Seawall and Revetment Habitat Plan (SRHP) that provides for intertidal biota. The applicant considered objectives or success criteria and monitoring and remediation requirements to be unnecessary and that a robust set of conditions based on expert advice had been provided and these requirements would add nothing useful because there is nothing that can be done to further redress those adverse effects short of applying for a new resource consent. Given the significant effort to avoid adverse effects, the applicant's position was that even if such effects occurred, they are more than adequately minimised by the avoidance and minimise measures proposed.

Dr Oliver has reviewed *Memorandum 6* and confirmed that monitoring is not expected as there is no precedent for monitoring of seawall design success elsewhere and that she agrees that nothing could be done in the event monitoring shows the enhancement measures were not working. Dr Oliver has confirmed she has no outstanding concerns with the proposal and that she is satisfied with the applicant's responses to date[32].

The applicant has proposed a Seawall and Revetment Habitat Plan (SRHP) be prepared by a suitably qualified ecologist and submitted for certification prior to construction. The SRHP shall be in general accordance with the information provided in the application and shall include, but not be limited to, the following details:

- Incorporating textures to the curved surfaces and depressions to the flat platforms of the curved seawalls including:
  - Within the 'low encroachment zone'; and
  - In areas where the seawall is wholly above the existing high-tide mark
- Drilling rock pools into the hard revetment rock
- Reuse of larger colonised rock material
- Purpose-made rock pool features (to be used where appropriate, and without compromising structural integrity)
- Where practicable, pre-cast 'pot plant/window box structures; and
- A map of an appropriate scale, showing where each method of enhancement will occur.

I am satisfied with the intent and scope of the proposed SRHP and therefore recommend this consent condition.

Based on the advice of Dr Oliver, should consent be granted, subject to the effective implementation of recommended conditions of consent, I consider that the permanent loss and modification of intertidal habitat as a result of the

[32] Email from Dr Megan Oliver to Shannon Watson on 30 October 2020

proposal can be managed such that effects are no more than minor. I reach this conclusion on the basis that proposed curved seawalls are expected to provide improved habitat compared to the existing smooth angled seawalls and thus may result in an increased diversity of taxa colonising the new walls and that the existing environment is already heavily modified with no unique or rare species of biota or invertebrate and that there is a high likelihood of timely recolonisation of biota and invertebrates on the seawalls post-construction.

12.10 Effects on fish passage

The application includes an Assessment of Fish Passage Requirements prepared by EOS Ecology (Fish Passage Assessment) in Appendix B of the AEE. Dr Harrison has reviewed the Fish Passage Assessment and agrees with the assessment of fish species present and analysis of fish passage barriers.

Through the project length there are numerous stormwater and piped stream outlets that discharge to the intertidal zone. Several of these have relatively high quality open stream channels that are known to, or are highly likely to have, freshwater fish present.

Effects on fish passage attributed to the project works are related to the potential for beach nourishment material to block stream outlets and for the extensions of culverts through the seawalls to create a perched overhang preventing or inhibiting fish passage.

12.10.1 Beach nourishment effects on fish passage

Beach nourishment has the potential to block outlets of streams which has the potential to impact fish passage. The Fish Passage Assessment identifies the affected stream outlets.

The applicant has proposed to avoid and minimise potential effects on these outlets by:

- Avoiding initial placement of beach nourishment material within 20 m of existing outlets
- Monitoring of stream outlets during beach nourishment and at fortnightly intervals for 6 months post-construction and monthly for a further 6 months
- Where necessary clearing the outlets of gravels and sand to maintain fish passage

These measures have been included as part of the construction methodology requirements for the BNP and form recommended conditions of consent. I note that clearance of the gravels from these outlets will likely require additional consents if the activity is unable to comply with the permitted activity standards in the respective regional plans.

12.10.2 Outlet specific detailed design

Of the 14 outlets present within the project length, three are seaward of the toe of the proposed seawall and will not require an extension. There will be no significant alteration to the remaining 11 outlets other than a minor extension to the outlet.

The Fish Passage Assessment describes extensions to outlets will be in the order of up to a few metres and that for pipes that discharge at the current beach level there will be little change to the current state of fish passage as the outlets will function in a similar fashion to existing outlets. However, there is the potential for the seawall design and outlet levels relative to existing beach to affect fish passage if not designed correctly or the outlets become perched.

Several outlets have been identified as requiring outlet specific detailed design, these outlets include:

- Howard Road Stream

This outlet is elevated above the high-tide level and discharges over the foreshore at times of low flow. This outlet currently has good upstream fish passage however the double curved seawall proposed at this location has the potential to impede fish passage if the outlet were to discharge to the upper level of the seawall. Installation of a short ramp or mussel spat rope may be required to maintain fish passage at this outlet during all tide levels.

- Wilmore Way Stream

This outlet has an elevated outlet with a vertical drop and is located just above the high-tide level. The current situation allows for upstream fish passage at all tidal levels. A double or triple curved seawall (depending on detailed design) is proposed at this location. The seawall has the potential to impede fish passage if the outlet were to discharge to the upper level of the seawall. Installation of a short ramp or mussel spat rope may be required to maintain fish passage at this outlet during all tide levels.

- Whiorau Grove Stream

There are currently twin outlets with existing louvers, and it is possible these outlets already limit fish passage. A freshwater ecologist will need to be involved in the detailed design of these outlets to ensure fish passage requirements are met.

- Sunshine Bay Stream

This outlet has a vertical drop down to rocky beach at low tide. The outlet is currently above the high-tide and is likely to remain so following an extension. The current outlet allows for upstream fish passage however the double curved seawall proposed at this location has the potential to impede fish passage if the outlet were to discharge to the upper level of the seawall due to the likely overhang. Installation of a short ramp or mussel spat rope may be required to maintain fish passage at this outlet during all tide levels.

In addition, Outlets at 30 Cheviot Road Stream and Lowry Bay South Stream are identified in the Fish Passage Assessment as requiring fish passage solutions due to the presence of duck-bill outlets which were planned to be installed as part of consents granted to Wellington Water Limited to manage maintenance of outlets to minimise flooding impacts. I note that the installation of duck-bill outlets at these locations has been abandoned having regard to fish passage concerns raised in the Fish Passage Assessment. Consequently, no fish passage solutions are required at these outlets.

To manage effects on fish passage the applicant has proposed conditions of consent requiring:

- Fish passage to be maintained or improved at the existing level; and
- A qualified freshwater ecologist be involved in the design of any culvert extensions, alterations or any specific fish passage features that may be required

I note that conditions of consent related to the LUDP and BSUDPs and conditions requiring the provision of engineering plans and specifications pre-construction, and as-builts and supporting certification from a suitably qualified engineer post-construction will also cover the design of stream outlets. These conditions will provide an opportunity for GWRC to identify any concerns regarding the design of the outlets before construction commences and subsequently provide certainty that these outlets have been appropriately constructed.

12.10.3 Assessment

Dr Harrison considers the avoidance and mitigation measures proposed are appropriate and supports the need for a freshwater ecologist with fish passage experience to be involved in the detailed design of the outlets. I therefore recommend the conditions of consent proposed by the applicant outlined above.

Dr Harrison notes ongoing monitoring to assess the effectiveness of any fish passage mitigations put in place will be essential for ongoing freshwater fish passage within the area subject to seawall construction. I agree with the advice of Dr Harrison and therefore recommend a condition of consent requiring the consent holder prepare a plan for the monitoring of the effectiveness of any alteration or replacement to any culvert modified by project works utilising an appropriate monitoring methodology selected from those outlined in Chapter 7 of New Zealand Fish Passage Guidelines to the satisfaction of a suitably qualified freshwater ecologist. This plan is required to be provided to GWRC for certification (and certified) prior to works on any stream outlets commencing.

I also recommend a consent condition requiring that if monitoring shows that fish passage is impeded the consent holder shall provide a programme and description of remedial actions to GWRC for certification within an agreed timeframe and that remediation actions shall be carried out as soon as practicable.

Based on the advice of Dr Harrison, should consent be granted, subject to the effective implementation of recommended conditions of consent, I am satisfied that effects on fish passage can be appropriately managed.

12.11 Effects on the Waiwhetu Aquifer

The proposed works will take place within the footprint of the underlying Taita Alluvial unconfined (Taita) and the Waiwhetu Artesian (Waiwhetu) aquifers. The Waiwhetu supplies the bulk of the consumptive water to Lower Hutt and Wellington City. The location the depth of some of the proposed seawall excavations and associated foundations have the potential to result in adverse effects being experienced within the underlying aquifers, in terms of both quantity and quality of the water in the aquifer. This has the potential to adversely affect human health and the natural environment.

When the consent application was originally lodged in May 2019 I discussed the proposal with Doug Mzila, Senior Groundwater Scientist, GWRC, regarding the need to request further information around dewatering and construction of structures given works were located within the Wellington Harbour Aquifer Protection Zone. As the application described the maximum depth of excavation activities and piling was to be less than 5 m below beach level, Mr Mzila expressed he was not concerned about the construction activities affecting the aquifer and that I did not need to request anything further. During the course of the application process I was made aware that GWRC had obtained new information and had a more informed understanding of the location of the aquifer. In light of this I sought confirmation from Ms Rebecca Morris, Senior Groundwater Scientist, GWRC, that GWRC's position on risk to the aquifer from construction activities had not changed.

Ms Morris considers that construction of foundations in the areas north of Lowry Bay may pose an issue to the aquifer but that all other bays are unlikely to be at risk. This is because the Waiwhetu Aquifer is encountered approximately 7 m below ground level (BGL) and is overlain by Petone marine sediments (the aquitard) from approximately 2 m BGL. As the excavation at this location would likely penetrate the aquitard Ms Morris sought that the double casing methodology for drilling and piling that is utilised for construction and investigation activities in the Hutt Valley be included in the construction methodology as part of the CEMP process to prevent leakage of artesian pressure and potential draw-down of contaminants into the aquifer. Ms Morris stated that construction where deeper foundations were required in the other bays should not pose any risk, due to the aquifer being deeper further along the coast (south).

Based on the advice of Ms Morris, in order to ensure any risk to the aquifer is appropriately managed, I recommend a condition of consent requiring a specific methodology for dewatering and managing effects on the aquifer be provided for certification where the excavation and location of the required seawall foundation exceeds 2.5 m BGL. This condition will allow GWRC to assess any potential risk to the Waiwhetu Aquifer in advance of construction commencing.

Ms Morris has confirmed that a condition to this effect is appropriate[33]. I am therefore satisfied that subject to effective implementation of recommended conditions of consent, should consent be granted, effects on the Waiwhetu Aquifer can be appropriately managed.

12.12 Effects on cultural and heritage values

12.12.1 Cultural values

There are three iwi groups who are identified as exercising kaitiakitanga within the area affected by the proposal:

- Taranaki Whānui ki te Upoko o te Ika (Taranaki Whānui)
- Te Ātiawa ki Whakarongotai (Te Ātiawa)
- Ngāti Toa Rangatira

As part of the application, the applicant has provided a Cultural Impact Assessment (CIA), prepared by Raukura Consultants, on behalf of The Wellington Tenths Trust and Port Nicholson Block Settlement Trust (PNBST). The potential effects of the proposal on cultural values as described by the CIA are:

- Damage and destruction of sites of cultural significance; and
- Effects on customary fishing

The Wellington Tenths Trust and PNBST are the relevant iwi authorities for Te Ātiawa and Taranaki Whānui. Taranaki Whānui cultural associations with the area have been formally recognised in their own Deed of Settlement set out in the Port Nicholson Block (Taranaki Whānui ki te Upoko o te Ika) Claims Settlement Act 2009. Ngāti Toa Rangatira cultural associations with the area have been formally recognised in their own separate Deed of Settlement set out in the Ngāti Toa Rangatira Claims Settlement Act 2014.

Wellington Harbour is highly significant to both Te Ātiawa/Taranaki Whānui and Ngāti Toa. Māori consider water as taonga (or sacred) and interfering or disrupting natural processes within the marine environment has the potential to adversely affect the physical and spiritual health of waterways, coastal systems and the people it supports. The reclamation for construction of seawalls will result in the loss of habitat and marine ecosystems and will inevitably lead to the loss of 'mauri' within the reclaimed area. The proposal also has the potential to adversely affect customary fishing undertaken by Māori within the area because of habitat loss, effects on water quality and the construction exclusion zone.

Impacts on cultural values associated with the Shared Path include the risk that cultural materials may be exposed during excavation. These materials include shell middens, burned stone and cultural artefacts which have been transported

[33] A copy of emails between Shannon Watson and Rebecca Morris regarding potential effects of excavation and foundation construction can be found in Appendix L.

from other areas of Wellington Harbour. Known Pa sites are located further inland of the proposed Shared Path wholly outside the project footprint and are unaffected.

The CIA states that there are no known sites of Māori significance that will be directly affected by the proposed Shared Path or associated earthworks. The area has in the past, however, seen finds of taonga (carved stone and bone items). The CIA considers that Māori archaeology is unlikely to be revealed due to the location and nature of proposed works, however the CIA recommended the inclusion of an accidental discovery protocol.

The CIA concludes the Shared Path should have only minor cultural impacts largely related to the rocky coastline of the area and perhaps on some sites around the harbour. The CIA describes that the provision of a safe Shared Pathway for pedestrians and cyclists would be a welcome addition to the area for all.

The Trusts (Wellington Tenths Trust and PNBST) recommend that they be consulted over a suitable element in the development that gives recognition of the Māori connection with the project. I note the LUDP (which forms recommended conditions of consent) is required to be prepared in consultation with local iwi and that this process provides such an opportunity for local iwi to input into the design features of the Shared Path.

The applicant has proposed the following measures to mitigate or monitor the effects of the proposal on tangata whenua and cultural values:

- Sediment control to minimise adverse effects on water quality during construction

- The inclusion of an accidental discovery protocol as a condition of consent and the implementation of the protocol for the duration of construction works

- The creation of habitat in the seawalls to mitigate the loss and modification of intertidal habitat

The application was publicly notified and focused efforts were made to engage directly with iwi as part of the application process once the application was received. No submissions were received from either PNBST or Ngāti Toa either through the formal submission process for the application, or the standing protocols between GWRC and the respective iwi for consent applications.

The CIA offers a technical appraisal of Māori cultural values regarding the area and its resources. The report identifies the potential impact of the proposed activities on Māori values and mauri. I am not an expert in tikanga Māori or in Māori culture and values and although I have made an effort to better understand the values of mana whenua, I respect that it is for those who hold mana whenua to identify and express these matters.

In assessing the potential cultural effects, I rely on the information presented in the CIA, the effort made by the applicant in its consultation and the mechanisms

proposed by the applicant and recommended through conditions of consent to avoid, remedy or mitigate potential effects including those on Māori cultural values.

I recommend that if the consents are granted, recommended conditions (accidental discovery protocols and associated reporting and the LUDP conditions) be included to ensure that effects on Māori cultural values and mauri can be avoided, remedied or mitigated.

12.12.2 Heritage values

The listed historic Skerrett Boatshed (1906) at Lowry/Whiorau Bay is located along the Shared Path. This structure is a historic building (Category 2: Heritage Listing #3580) and is identified in Appendix 4: Features and buildings of historic merit in the RCP and Schedule E1 Historic heritage structures of the PNRP (and Map C6 of the District Plan), respectively.

The application states that the Skerrett Boatshed will be retained and is unaffected by the project, with the Shared Path narrowed at this location to avoid this structure. Heritage New Zealand were directly notified and have not made a submission related to potential impacts of the proposal on Skerrett Boatshed or any other matters related to heritage values.

Consequently, I am satisfied adverse effects on heritage values are negligible.

12.13 Noise, vibration and dust during construction

Potential construction effects associated with the proposal include increased noise, vibration and dust during excavation of old seawalls and construction of the new seawalls. If not appropriately managed these effects have the potential to impact residential and recreation amenity values.

The application describes these effects will be typical of any construction activity and will be experienced mainly during day times and no vibration effects are anticipated to be caused from the works. Accordingly, effects on vibration have not been considered further.

The application stated that the proposal would comply with all construction noise standards (consistent with NZS6803:1984 – since superseded by NZS6803:1999), or if night works were required, consents for construction noise would be sought independently at the appropriate time. However, as part of *Memorandum 5* the applicant proposed a condition of consent with noise standards for the project that were not consistent with NZS6803:1999. This raised concern that construction noise may not be consistent with the requirements of the regional plans or the HCC District Plan and confirmation as to whether consents for construction noise were being sought was requested in the *Response to Memorandum 5*.

Memorandum 6 included an updated proposed condition that aligns with the format and standards set out in NZS6803: 1999. However, the condition states that the noise shall only comply ‘as far as practicable’ with these standards. I consider (and Mr Kellow supports) the inclusion of ‘as far as practicable’ as

inappropriate. The application will either be able to comply with prescribed noise standards or it will not, in which case consents for construction noise should be sought. I therefore recommend that 'as far as practicable' is removed from the condition as proposed.

The application describes dust will be suppressed by spraying water on the work site, should it be necessary but notes it is unlikely that much (if any) dust will be generated by the activities, given the nature of construction works and the sand gravel environments, as well as the presence of groundwater and seawater in the excavations.

Subject to effective implementation of recommended conditions, I am satisfied the effects of noise, vibration and dust during construction activities can be managed such that overall, effects are less than minor.

12.14 Effects of sea level rise

While the above adverse effects assess the impacts of the proposal *on the environment*, the following section addresses the impacts *of the environment* on the proposal.

The Coastal Processes Assessment describes the design life of the proposed seawalls is 50 years, or out to 2070. However, after 50 years have elapsed the assessment describes there is no intention to relinquish Marine Drive and the Shared Path to the rising sea level and more frequent overtopping and flooding events.

Sea level rise will have an increasing impact on the wider Eastern Bays region through the design life of the project. Ultimately, sea level rise will result in the gradual loss of the beaches within the project footprint and wider Eastern Bays and increase the frequency of overtopping events and flooding which will lead to longer and more frequent road closures and clean-ups of Marine Drive.

The loss of physical beach area due to sea level rise will result in the loss of amenity value and intertidal and subtidal habitats adversely affecting intertidal ecology and coastal birds in particular.

12.14.1 Wave overtopping hazard

The application describes Marine Drive and coastal margins within the Eastern Bays currently experience flooding and road closures during high water levels combined with waves and onshore winds. Storms and unusual tidal conditions regularly cause localised flooding of roads and property near the coast, with overtopping and associated debris making Marine Drive unsafe for vehicles and pedestrians.

Effects associated with overtopping include the transport of rocks, beach material and driftwood over Marine Drive, and localised flooding which could lead to disruption or closure of Marine Drive during storm events. Damage and flooding caused by overtopping can be expensive to remedy and cause disruption to the use and safety of Marine Drive in the short-medium term.

Curved seawalls have been proposed where practicable due to their ability to reduce wave overtopping most effectively in comparison to other seawall designs. The Coastal Processes Assessment describes the proposed seawall designs are better at dissipating and deflecting wave energy when compared to the structures they replace and therefore the construction of the Shared Path is expected to generally reduce the rate of overtopping and waves splashing onto Marine Drive. The additional buffer provided by the width of the Shared Path is expected to further reduce the number of overtopping instances reaching the road. With respect to revetments, the revetment profile will be higher than that of curved seawalls and the Design Features Report (and Coastal Processes Report) describe the revetment design as consistent with international best practice guidance under the United States Army Corps of Engineers Coastal Engineering Manual[34] and will therefore optimise structural stability and minimise wave overtopping.

While the proposed seawalls will reduce the overtopping hazard during minor to moderate storm events there will be no change to the overtopping hazard during large storms because no change to the crest elevation of the seawalls is proposed. This is because the crest elevation of proposed seawalls is fixed to that of the existing road and changes to the elevation of the road crest are outside the project scope.

Overall, the applicant considers the proposal will reduce the overtopping hazard in the short-medium term and the new Shared Path could be seen to provide a greater benefit to future adaptation options, compared to the existing situation, because the platform will be wider, and founded on more competent rock. Detailed design will further investigate design improvements to mitigate overtopping where possible. The Coastal Processes Assessment concludes that overall there will be a minor positive effect on the wave overtopping hazard. However, acknowledges the reduction to the overtopping hazard is only a short-term benefit as the effect of rising sea level will gradually increase the overtopping frequency.

Specifically responding to submissions suggesting the seawall design will not effectively reduce the frequency of overtopping, and consequently road closure, Dr Dawe considers there are two options to prevent overtopping and coastal flooding from waves and storm surge. These are:

- Large scale hard engineered options that are wide and high enough to prevent wave overtopping; or

- Extensive beach renourishment to push the mean water level seaward and create a buffer between the land and sea that can absorb wave energy and hold back high water levels.

In order to prevent waves and spray overtopping, the revetments and seawalls would have to be both higher and wider which would reduce public access and amenity, involve more reclamation and be substantially more expensive due to

[34] United States Army Corps of Engineers Coastal Engineering Manual (USACE) 2006 https://www.publications.usace.army.mil/USACE-Publications/Engineer-Manuals/u43544q/636F617374616C20656E67696E656572696E67206D616E75616C/

consequential changes to Marine Drive and supporting infrastructure. Dr Dawe also notes large-scale nourishment programmes would be out of character with the natural amenity and character of the beaches and would likely adversely impact nearshore ecology, including seagrass meadows.

A number of submitters suggested that breakwaters, surf breaks, rock rip-rap islands or other artificial structures could be constructed to absorb wave energy and reduce the impacts from storms and waves on Marine Drive, thus avoiding the need to build seawalls. Submitters also suggested that these structures would stop gravel movement from blocking drains and pipes and will slow the loss of sand from the beaches, reducing the need for beach nourishment.

Dr Dawe states off-shore structures are designed to have two main purposes: the first is to reduce wave energy reaching the shore and the second and related purpose is to encourage sand build up on the beach. Dr Dawe considers such structures would not be suitable for the stretch of coast along the Eastern Bays for the following reasons:

- There is very little sediment accumulation and minimal sediment inputs from both longshore currents and from offshore and therefore the offshore structure would effectively only be operating to reduce wave energy. This function can be performed by shore-based structures

- Such a structure would only reduce wave energy (not stop it). In a storm, the coastal hazards in the Eastern Bays are two-fold; large waves that cause erosion and structural damage and extreme water levels from storm surge that cause flooding and deposition of debris. Dr Dawe states a seawall upgrade would still be required to reduce the impacts from flooding

Other offshore structures are not likely to be effective due to the lack of a coastal swell and the likely costs of implementation and maintenance. Dr Dawe also notes off-shore structures would be unlikely to prevent sand and gravel from blocking stormwater outlets as suggested by some submitters.

Ultimately, the design of the proposal is at the discretion of the applicant and Dr Dawe has only assessed the design in front of him rather than attempt to re-design the applicant's proposal. In this respect, while acknowledging overtopping and associated flooding and disruption to Marine Drive will still occur during larger storm events, Dr Dawe is satisfied proposed curved seawalls and revetments will have the positive effect of reducing the overtopping hazard in the short-term. I agree with this conclusion.

12.14.2 Loss of beach

The Eastern Bays beaches are constrained by the road and seawalls and are not able to retreat inland. Over time, sea level rise is expected to reduce the effective beach area within the bays along the project length by inundating a greater area of the beach at each tidal stage.

The Coastal Processes Assessment describes that without any nourishment the beach area at each tidal stage will reduce by approximately half (50%) with each

0.5 m of sea level rise above present day MHWS. Based on the current extents of existing beach along the project length, this means after 0.5 m sea level rise there will be almost no high-tide beach, and only half the current area of beach at mid and low tides. With sea level rise of 1 m there would only be a small area of beach at low tide and almost no beach at higher tides. The present-day beach area and beach area at each stage of sea level rise are presented in Table 10 below.

Table 10 Estimated total Eastern Bays beach area at present day sea levels and with sea-level rise

Tide stage	Present day beach area	Beach area after 0.5 m SLR (m^2)	Beach area after 1.0 m SLR (m^2)
Low	15,973	8,000	4,000
Mid	8,647	4,000	< 1,000
High	4,003	< 1,000	< 1,000

Beach nourishment will have a minor benefit in delaying the negative effects of sea level rise on beach areas because the beach will last slightly longer than it would have without nourishment. This is because the volume of material at each beach will increase and the imported sediment will be slightly coarser and heavier than existing in-situ beach material. Both of these factors mean that material will not be lost offshore as quickly and the beach system will endure for longer, providing a more effective buffer than the existing beach alone.

Based on the advice of Dr Dawe, subject to the effective implementation of beach nourishment in accordance with recommended conditions of consent, I agree that beach nourishment will have a minor positive benefit in combatting the effects of sea level rise.

12.14.3 Adaptability

The applicant emphasises that the improvements to the seawalls have been designed as a ‘first step’ in incremental upgrades or alternative adaptation options to protect the Eastern Bays community from sea level rise. While not a long-term solution, the proposal adds 2.5 m or 3.5 m of width (depending on location) to the coastal edge and strengthens the seawall foundations. The additional width will provide a larger and stronger (than present) foundation platform to build upon should HCC decide that future structural upgrades of coastal defences are required.

While the current proposal will ‘buy some time’ sea level rise will gradually lead to an increased frequency of wave overtopping and coastal flooding and an ongoing reduction in level of service along Marine Drive. There will come a time in future where the frequency and/or severity of overtopping events will require HCC to implement further measures to protect development along Marine Drive. The proposal does not preclude these future adaptation options by 'locking in' HCC to one particular option.

In the meantime under Ministry for the Environment (MfE) *Coastal Hazards and Climate Change – A Guidance Manual for Local Government (2017)* HCC are required to consider long-term options for managing climate change and sea level rise, specifically allowing for adaptation to ongoing sea level rise, and develop a long-term suite of planning pathways to adapt to the effects of ongoing sea level rise and climate change along Marine Drive. It is understood that this strategy is currently being progressed[35].

Some submissions questioned the adaptability of the proposal to sea level rise and thought that the project should be constructed in future once more is known about sea level rise. In response to these submitters' Dr Dawe notes that the effects of climate change and sea level rise are occurring now with flooding and sea level rise already having an impact. The current rate of local relative sea level rise is known and therefore it is possible to design the seawalls to withstand these effects whilst retaining a design that provides for future modifications. Dr Dawe supports the ability for the proposed design to allow additions to the seawalls at a later date when sea level rise is likely to cause more frequent and severe flooding and closure of the road and path. Dr Dawe considers this is an acceptable compromise to building bigger structures that would require additional encroachment and more vertical height in the short-term.

In addition, Ms Westlake notes that the curved seawalls have been structurally designed to be able to be raised in the future and that the cantilevered walls for the revetments have been designed as standalone elements so the areas of revetment can also be raised in future if required.

In response to concerns raised by a submitter that HCC will almost certainly have to raise the road level via infill behind any seawall add on in future and that the wider path will require more infill and may result in additional carriageway width on the landward side of the road, I note simply that any future raising of any seawalls would need to be evaluated as part of the consenting process for future works and is outside the scope of this consent. However, I note that it reasonable to expect that any access or level of service requirements for Marine Drive be developed and confirmed as part of the long-term climate change strategy in consultation with the community.

Dr Dawe and Ms Westlake support the adaptability of the design and confirm the proposal satisfies the requirement under the RMA to consider the effects of sea level rise over a period of at least 100 years as stipulated in the NZCPS (Policy 24) taking into account relevant MfE guidance, in particular the DAPP adaptive pathways approach to long-term management[36].

12.14.4 Overall assessment

I consider that the applicant has struck an appropriate balance between allowing reasonable overtopping and building bigger structures to further minimise or

[35] HCC Annual Plan (2018/19) has budgeted for a community engagement process to address coastal adaptation. HCC Sustainability and Resilience Manager Jörn Scherzer is tasked with the development of a Lower Hutt Climate and Resilience Plan to identify relevant objectives and prioritised community-focused actions. This will include work for a coastal adaptation strategy (ie how to respond to sea level rise).

[36] The term DAPP is explained in the Ministry for the Environment, Coastal hazards and climate change: Guidance for Local Government (2017) as dynamic adaptive pathways planning. It is described as a tool that is particularly useful for making decisions at the coast, which is a dynamic environment with ever-changing risk profiles, and where there is uncertainty around the rates and magnitude of changes, especially over the long-term.

completely prevent overtopping in response to sea level rise. As noted by Dr Dawe, bigger structures would require a larger footprint and more vertical height which increase the ecological, natural character, visual and landscape amenity and coastal processes impacts. While acknowledging the desire of submitters to prevent or otherwise further minimise overtopping, I consider the 'interim' design solution proposed by the applicant to be appropriate. In part, this is because any larger or higher structures may limit the future adaptability of the design which could 'lock' the applicant into a particular design solution or response going forward.

Based on the advice of Dr Dawe and Ms Westlake, I am satisfied the current design reflects an appropriate balance between providing reasonable increased protection from the overtopping hazard now, while not precluding adaptation to sea level rise and the expected increase in severity and frequency of the overtopping hazard in future.

12.15 Positive effects of the proposal

The positive effects or benefits of the proposal are described in section 23 of the application AEE. In addition, positive effects of various elements of the project have been identified through the previous sections of this report and are not repeated here. Such positive effects include the potential for increased intertidal habitat on the face of seawalls due to habitat enhancement through textures and the benefits of the proposal in relation to delaying the effects of sea level rise and climate change.

Positive effects of the proposal not previously identified are summarised below. This assessment includes all of the positive effects of the proposal not just those within GWRC jurisdiction. I further note that the positive effects are identified and are heavily supported through the submissions in support of the project.

12.15.1 Transport mode shift

The proposed Shared Path is expected to result in an increase in pedestrian and cycle trips along Marine Drive. Whilst some of these trips will represent existing trips, a large proportion are expected to be new trips upon the network, with some of these trips likely to result from a mode shift with people who once completed their journey by private vehicle now completing their trip by either walking or cycling. Encouraging a mode shift is expected to have a positive knock-on effect of reducing congestion by reducing the overall demand on the local road network.

The Shared Path also encourages a multi-modal shift where rather than walking or cycling to a chosen final destination, a resident of the Eastern Bays area may use the Shared Path to travel to a point where public transport facilities are available to complete the rest of their journey by rail, bus or ferry.

Providing a mode shift away from the private vehicle, towards the more active and sustainable travel options of walking and cycling will also have a direct impact (albeit undefined) on reducing the levels of CO^2 emissions produced by private vehicles.

The provision of the Shared Footpath will provide an opportunity for people to make walking and cycling part of their weekly routine. The separated nature of the Shared Path from the 'live' road corridor is also expected to significantly encourage walking and cycling to school.

12.15.2 Safety benefits

Reducing the number of vehicles that are present along Marine Drive will further encourage walking and cycling as the perception of safety increases. A key intangible benefit of a separated Shared Path is the reduction in perceived risk. The proposed Shared Path removes pedestrians and cyclists from the 'live' carriageway to an area in which they feel much safer.

The Shared Path will reduce the probability of crashes between vehicles and vulnerable users (pedestrians and cyclists) by effectively separating the two user groups. Based on the estimated existing and future users, the economic evaluation estimates that there will be approximately $0.6M of cycling safety benefits associated with the Shared Path alone, not including the potential benefits to pedestrians.

12.15.3 Health and environmental benefits

The Shared Path is expected to improve the overall health and wellbeing of individuals who choose to take advantage of the facility. The application notes there is strong evidence that shows that with an increase in exercise on a weekly basis there is a corresponding increase in overall health of the individual, both from a physical and a mental perspective.

The Shared Path provides an opportunity for the residents within the Eastern Bays area, and further afield, to increase their cardiovascular outputs, through the use of the Shared Path, reaping the health benefits resulting from the increase in exercise. The economic evaluation indicated that the vast majority of benefits, (approximately $10.7 Million or 75% of the net benefits of the project), are attributed to the health and environmental benefits resulting from the increased number of cyclists and pedestrians expected to use the Shared Path.

12.15.4 Recreation and tourism

As discussed previously, the Eastern Bays Shared Path has been an expectation of local and regional recreation and tourism planning for more than a decade.

The Great Harbour Way and the Remutaka Cycle Trail require the Shared Path to be of adequate standard to accommodate the expected number of walkers and cyclists. Most of these will be New Zealanders but perhaps as many as 15% could be international visitors.

12.15.5 Environmental and cultural awareness

The project has the opportunity to increase public awareness of potential effects and the impact of human (and pet) behaviour on penguins and other coastal birds.

The Shared Path Project presents the opportunity to educate the public on the behaviour of penguins and coastal birds (in Eastbourne and the wider Wellington

Harbour) through signage and story boards that will be part of the detailed design stage of the project.

There are also other opportunities to showcase the cultural, historic and ecological elements of the area through storyboards and to responds to such elements through design features, for example through the creation of textured concrete surfaces to establish intertidal biota habitat or through the development of appropriate cultural design elements in collaboration with local iwi.

12.16 Summary

In summary, I consider that the majority of adverse effects can be mitigated to a level where they can be considered minor or less than minor. The positive economic and health and safety effects of the proposal for the Wellington Region (and NZ) have been identified as being significant.

I acknowledge that there is the potential for effects on oystercatchers to be more than minor and have recommended further information be provided from the applicant in relation to the management of these effects. I also acknowledge the concerns with the mitigation and management of effects on natural character being developed post-consent, meaning no absolute determination on the level of effects can be made at this time. However recommended conditions based on expert advice endeavour to ensure that the outcomes for natural character are likely to be acceptable.

Specific conditions in relation to managing the range of actual and potential environmental effects considered are discussed in the sections above and can be found in **Appendix A**.

13. Objectives and policies of the relevant planning instruments 104(1)(b)

13.1 National planning instruments

13.1.1 The New Zealand Coastal Policy Statement 2010

A consent authority, when considering an application for a resource consent, must, subject to Part 2 of the Act, have regard to, amongst other things, the relevant provisions of the New Zealand Coastal Policy Statement (NZCPS). An assessment of the objectives and policies of the NZCPS that are relevant to the proposal is provided below.

Objective 1

The hydrodynamic, sediment transport and morphological effects of the proposal have been assessed in the coastal processes section of this report. Overall, it is considered that the current natural hydrodynamic, sediment transport and morphological processes will not be materially affected by the proposal.

There are no intertidal species of conservation concern within the project area and the coastal nearshore environment is assessed as typical of the Wellington Harbour. The replacement seawalls include mitigation and enhancement measures to be provided through textures and habitat complexity features on the

surface of proposed seawalls and revetments and are expected to result in a greater abundance and diversity of intertidal biota than currently exists. Encroachment on seagrass beds in Lowry Bay will be avoided and indirect effects on seagrass beds during construction can be managed to an acceptable level.

The Eastern Bays foreshore, including the area affected by the proposal, provides habitat for several 'Threatened' or 'At Risk' coastal birds. As described in the section on coastal birds, while effects on penguins and shoreline foragers such as gulls and shags can be appropriately avoided and mitigated to an acceptable level through recommended conditions of consent, there is concern loss of foraging habitat and feeding resources for oystercatchers will lead to a decline in the success of breeding for this species and lead to an overall decline in the number of oystercatchers. The effects of the proposal on oystercatchers are therefore considered to be potentially more than minor.

The proposal will have adverse effects on coastal water quality as a result of disturbance and discharge during construction. The effect on coastal water quality during construction will be temporary and it is considered that the effects on coastal water quality can be appropriately mitigated and therefore are consistent with Objective 1.

Overall, the proposal is in part consistent with Objective 1.

Objective 2

This is a high level objective about preserving natural character and features in the coastal environment. Given the proposal involves a total loss of marine environment and its replacement with a terrestrial form, there will be adverse effects on natural character. However, the Eastern Bays foreshore is a heavily modified environment and these effects are not considered significant. Conditions seeking to achieve appropriate design outcomes through the LUDP and BSUDP processes have been recommended to ensure that natural character is appropriately maintained and where possible enhanced.

Overall, it is considered that the effects on the natural character and the CMA as a natural feature could be appropriately mitigated and, therefore, the proposal is consistent with Objective 2.

Objective 3

The applicant has recognised the relationship of tangata whenua with the project area through their application documentation. The applicant has committed to an ongoing relationship with iwi (through the involvement of iwi in the LUDP process). Recommended consent conditions reflect requests made through the CIA condition with regard to the provision of protocols for the accidental discovery of artefacts, taonga and kōiwi during construction. The Wellington Harbour is identified as a statutory acknowledgement area in the Port Nicholson Block Claims Settlement Act and Ngati Toa Rangatira Claims Settlement Act respectively. The effects on these areas have been recognised and discussed in this report.

I consider the proposal is consistent with Objective 3.

Objective 4

Although areas of high-tide beach used for recreation activities are lost to the proposed seawalls, beach nourishment has been proposed to mitigate this effect and maintain existing high-tide beach areas post-construction. Beach nourishment also has the potential to enhance access to and the availability of beaches and therefore recreation amenity as nourishment will make the beaches more resistant to sea level rise in the short-term.

Public access to and along the CMA within the project area is currently difficult and unsafe. The project will enhance public access along Marine Drive, and provide enhanced connections within the individual bays, between different bays, to and from Lower Hutt and surrounding suburbs and to other regional walking or cycle routes.

Public access to the beaches will be maintained, and in certain places, enhanced. Beach access accommodates beach users on foot and also boat or kayak users through provision of boat ramps maintaining access to recreational opportunities.

I consider the proposal is consistent with Objective 4.

Objective 5

Expert advice from Dr Dawe has confirmed the construction of the project will (in the short-medium term) generally reduce the rate of overtopping onto Marine Drive. This is due to the additional width of the Shared Path reducing the number of overtopping instances reaching the road and the recurved design providing a more effective deflection, dissipation and reflection of waves. The proposal will reduce the overtopping hazard for small to moderate storm events along all sections of the coast. However, for less-frequent extreme events there is unlikely to be any discernible change to the overtopping hazard as the seawall crest elevation will remain unchanged.

The replacement of existing seawalls and the construction of new seawalls to accommodate the Shared Path will provide the first step in incremental seawall upgrades or alternative adaptation options to respond to sea level rise and protect Marine Drive and related underground infrastructure along this section of the coast. The Project will 'buy some time' to allow HCC to consider a long-term suite of planning pathways to adapt to the effects of ongoing sea-level rise and climate change along Marine Drive.

I consider the proposal is consistent with Objective 5.

Objective 6

The project is expected to enhance community cohesion, provide amenity benefits, widen transport choices and improve access to the coast and public open space such as the beaches and Whiorau Reserve along the road corridor

and will include connections through to the Hutt River Cycle Trail (and other trails), the Great Harbour Way and the Remutaka Cycle Trail once the path is constructed which will also provide economic opportunities by enhancing tourism. The proposal will therefore enable people to provide for their social, economic and cultural wellbeing. The project will also have key health and safety outcomes by improving pedestrian and cyclist safety.

The proposal will appropriately avoid or mitigate adverse effects on the habitat of marine resources, specifically seagrass habitat in Lowry Bay and shell-fish or mahinga kai species within the project area.

While the Shared Path could, in theory, be located on the other side of Marine Drive, this option was rejected during the design development as it was considered that this would have significant adverse effects on natural character, require significant property purchase and would result in unacceptable conflicts between pedestrians and residents of Marine Drive during egress and entry to private property and local roads. In addition, to achieve resilience objectives the project requires upgrade and replacement of seawalls to protect Marine Drive from overtopping and coastal hazards. Existing protection structures are located within the CMA and along the coastal margins and therefore replacement protection structures have a functional requirement to be located in the CMA. The replacement and upgrade of these structures has been assessed to be required in future regardless of the Shared Path however the Shared Path provides an opportunity for a more efficient use of natural and physical resources by building the Shared Path atop the upgraded seawalls. In the absence of any other practicable option to achieve the projects public access and resilience objectives, I consider that there is a functional need for the Shared Path to be located in the CMA.

I consider the proposal is consistent with Objective 6.

Policy 2: The Treaty of Waitangi, tangata whenua and Maori heritage

This policy sets out a list of considerations when assessing applications against the principles of the Treaty of Waitangi and kaitiakitanga.

The assessment of Objective 3 of the NZCPS above is relevant to the assessment of this policy. In addition to the assessment in Objective 3, there is no relevant iwi resource management plan recognised by the iwi authorities that have an interest in the application area.

It is also noted that a number of parties have submitted applications under the Marine and Coastal Area (Takutai Moana) Act 2011 (MACA) for customary marine title and protected customary rights over the section of the Wellington Harbour within the Project area.

Notifications as prescribed by MACA were sent by the applicant to seek the views of the groups that have applied for recognition of customary marine title in the area. The application describes no project specific feedback has been received from MACA applicants to date.

I consider the proposal is consistent with Policy 2.

Policy 3: Precautionary approach

This policy requires a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse. With respect to the proposal, there is a level of uncertainty around the number of oystercatchers in the project area and there is a risk that effects on oystercatcher territories may affect breeding success which could lead to a decline in the population of oystercatchers.

I recommend that the applicant provide further information on these matters for consideration at the hearing.

The second part of this policy requires a precautionary approach to the use and management of coastal resources in the CMA vulnerable to the effects from climate change.

Assessment has determined that climate change and sea level rise will, likely within the next 20-30 years, significantly reduce the existing extent of foreshore habitat and therefore result in gradual loss of habitat for Threatened and At Risk bird species. The project mitigates (in part) this loss through beach nourishment and the provision of protection areas and features within the seawalls and revetments themselves that will provide habitat that will not otherwise exist.

The proposal provides the first step in incremental seawall upgrades or alternative adaptation options to respond to sea level rise and protect Marine Drive and related underground infrastructure along this section of the coast. There will come a time in the future where the frequency and/or severity of overtopping events will require HCC to implement further measures to protect development along Marine Drive. The proposal does not preclude these future adaptation options by 'locking in' HCC to one particular option. Dr Dawe and Ms Westlake support the adaptability of the design and confirm the proposal satisfies the requirement under the RMA to consider the effects of sea level rise over a period of at least 100 years.

I therefore consider the proposal to be in accordance with the precautionary approach related to climate change.

Policy 4: Integration

This policy requires an integrated approach to the management of the coastal environment which crosses administrative boundaries.

The proposal includes activities above and below MHWS and activities which have effects that need to be considered by both GWRC and HCC Consents. The applicant applied for consent for all activities concurrently and the consent application was jointly notified.

Pre-lodgement (at the HCC level) has involved inputs from different public agencies along with mana whenua and has resulted in the integrated development

of a project that achieves safety outcomes, while providing resilience benefits in a manner that protects (to the extent practicable) effects on the coastal environment.

In addition, the applicant has consulted and involved other regulatory and interest groups (DoC and Forest & Bird) in the consideration of matters to resolve concerns about effects of the proposal on penguins and coastal birds.

The application has been considered holistically with respect to the effects on the coastal environment and technical experts involved in the review of the application have been engaged by both councils where applicable.

Overall, I consider the proposal is consistent with Policy 4.

Policy 6: Activities in the coastal environment

There are significant economic and health (and safety) benefits from the proposal and therefore the provision of the Shared Path contributes to the economic and cultural wellbeing of people and the community.

Policy 6(1)(b) Provision for future use of the path and as a result the required width to provide a safe and comfortable user experience has been considered and the design takes into account anticipated future usage.

Policy 6(1)(h) It is considered that headlands of the bays are the most sensitive to visual impacts from the proposal. Effects at these locations are related to the construction of rock revetment structures which will be more prominent than the existing natural outcrops. The assessment of natural character outlined in this report concludes that the effects of these structures will be mitigated in part as they generally replace existing revetment structures, and further over time as these structures weather. I consider effects on natural character along the project length can otherwise be managed through the effective implementation of the LUDP and BSDUP processes supported by appropriate recommended conditions of consent.

Policy 6(1)(i) The protection of natural character, open space, public access and the amenity values of the coastal environment has been carefully considered through this report. To meet acceptable safety and recreation standards the Shared Path needs to extend into the CMA in places. However, I am satisfied the extent of the project in the CMA has been reduced as much as practicable, taking into account the physical and social and safety constraints on the landward side of Marine Drive and the required safety and recreation standards for path width. Where possible the project enables the widening of the legal road without compromising other values of the coastal environment.

Policy 6(1)(j) Notwithstanding there may be loss of significant (in the regional context) coastal habitat for oystercatchers and foraging birds, effects on sites of significant biodiversity value have been avoided to the extent practicable. Namely, conditions have been recommended to ensure effects on the last known seagrass beds in Wellington Harbour will be avoided. Sites of historic heritage value (Skerrett Boatshed) will also be avoided.

Policy 6(2)(a) As described above, assessment has determined that the proposal will result in significant health and safety benefits for the Eastern Bays communities and economic benefits to the wider region, providing for the economic, social and cultural wellbeing of the community.

Policy 6(2)(b) There will be temporary adverse effects on public open space and recreation during construction, this includes changes in water quality and exclusion areas to maintain public safety. In the long-term the proposal will result in an increase in recreation opportunities and conditions of consent have been recommended to ensure that recreation amenity is maintained (via beach nourishment), once constructed the proposal will result in an increase in public open space available for recreation opportunities along the Eastern Bays coastal margins.

Policy 6(2)(d) As noted in consideration of Objective 6 above, in the absence of any practicable alternatives to achieve the projects safety, public access and resilience outcomes there is a functional need for the proposal to be located within the CMA.

Policy 6(2)(e) The Shared Path will be a community asset and will be available for public use. Structures no longer required will be removed from the CMA resulting in a de-reclamation of foreshore.

Due to concerns about the potential impacts on oystercatchers, overall I consider the proposal is in part consistent with Policy 6.

Policy 10: Reclamation and de-reclamation

This policy sets out a framework for assessing whether reclamation of land in the CMA is a suitable use of the CMA and where it is suitable, things to consider in the form and design of the reclamation. The first part of this policy requires that the reclamation of land in the coastal marine area is to be avoided, unless:

- Land outside the coastal marine area is not available for the proposed activity;
- The activity which requires reclamation can only occur in or adjacent to the coastal marine area;
- There are no practicable alternative methods of providing the activity; and
- The reclamation will provide significant regional or national benefit.

The Marine Drive coastal edge is currently constrained by the CMA, the live road carriageway and existing built development on the landward side. Without significant property purchase there is no land outside the CMA which could accommodate the Shared Path.

The assessment of Objective 6 of the NZCPS above is relevant to the assessment of this policy. In summary I consider there is both a functional need and no practicable alternatives related to the location of the Shared Path in the CMA.

The project will connect the Eastern Bays to other regional and nationally significant cycle routes including the Great Harbour Way and the Remutaka Cycle Trail. This is likely to have significant economic and tourism benefits, at a regional scale and potentially the national scale. The Shared Path also provides additional protection for Marine Drive from coastal hazards in the short-medium term and provides an additional buffer between coastal hazards and the MOP outfall pipeline. I therefore consider the project also provides significant regional resilience benefits from coastal erosion and sea level rise.

Policy 10(2) requires that where a reclamation is considered to be a suitable use of the CMA, particular regard is to be given to a number of matters. In this regard:

- As outlined above, the proposal is the first step in incremental upgrades while a long-term climate change strategy is developed and implemented

- The shape of the reclamation will generally follow the existing landform on the coastal margins of Marine Drive which is already heavily modified with existing seawalls and protection structures.

- Access will continue to be provided to and along the CMA at high-tide where practicable. The only restrictions to public access will be during construction activities to protect the health and safety of the community.

- The effects assessment in this report outlines the measures expected to remedy or mitigate effects of the reclamation.

- Wellington Harbour is significant to tangata whenua and is recognised through statutory acknowledgements. The reclamation is not considered to adversely affect cultural landscapes and sites of significance to tangata whenua as Pa sites are located inland of Marine Drive. An archaeological discovery protocol has been recommended to ensure the protection of any archaeological sites that may be discovered during construction.

- Consequential erosion and accretion and effects on other natural hazards will be avoided. The coastal processes and erosion and design integrity of seawall sections of this report conclude that proposed seawalls have been appropriately designed and conditions require that the seawalls are constructed and maintained to avoid adverse effects related to erosion and accretion, and mitigate natural hazards.

Overall, I consider the proposal is consistent with Policy 10 of the NZCPS.

Policy 11: Indigenous biological diversity

This policy aims to protect 'Threatened' and 'At Risk' species with indigenous biological diversity values in the coastal environment. The following species affected by the proposal require consideration under Policy 11:

- Little penguin, oystercatcher, red-billed gull, black shag, little black shag and pied shag and their habitat

- Seagrass beds in Lowry Bay

- Small gravel beaches in all five bays which are classified as an endangered, historically uncommon ecosystem (shingle beaches)

Measures proposed by the applicant and confirmed by recommended conditions of consent appropriately avoid and mitigate effects on shoreline foragers such as shags and gulls can be because these species are able to find alternative habitat. Provided the applicant can accommodate 100 nesting opportunities at an appropriate spacing across the habitat enhancement areas and an appropriate framework for dog and pest management can be developed, effects on little penguins can also be considered acceptable.

However, habitat enhancement and dog and pest control is not sufficient to mitigate a reduction in food and breeding resources currently available to oystercatchers that will be lost to the project. Dr Uys considers the proposal currently provides no path to manage the effects of habitat loss on oystercatchers and that the project is unlikely to be able to effectively mitigate the adverse effects of the proposal on oystercatchers without replacing the physical extent of habitat that is lost. There remains a significant risk that effects on oystercatcher territories may impact breeding success which could lead to a decline in the population of oystercatchers. I have recommended further information be provided by the applicant in respect of the management of effects on oystercatchers.

The proposal will avoid all encroachment on seagrass beds and recommended conditions will ensure adverse effects on the seagrass beds are avoided or otherwise minimised to an acceptable level (less than minor) during construction.

Effects on the small gravel beaches cannot be avoided as reclamation of areas of beach is required to develop the Shared Path. However, beach nourishment will be implemented to mitigate the loss of gravel beaches at the main beaches. The loss of gravel beach at the other beaches is largely above MHWS and not of a scale considered to warrant formal mitigation. These gravel beaches in context of the project are important because of the 'Threatened' or 'At Risk' vegetation communities they support. Mr Kellow considers these effects can be appropriately managed and therefore I consider these effects are acceptable.

Having regard to the effects on oystercatchers which are potentially more than minor, the proposal is inconsistent with Policy 11. It is recommended that the applicant consider options to avoid or otherwise manage effects on the oyster catchers and present these at the hearing.

Policy 13: Preservation of natural character

This policy aims to preserve natural character and protect the coastal environment by avoiding adverse effects in areas with outstanding natural character, avoiding significant adverse effects and avoiding, remedying or mitigating adverse effects on natural character in all other areas of the coastal environment.

As discussed in this report there are no areas of outstanding natural character within the project footprint so Policy 13(a) does not apply. Expert advice confirms effects on natural character are assessed to be Low in bays without safety barriers and Moderate in bays where safety barriers are installed. Effects on natural character have the ability to be further mitigated to Low (or even get to a point where effects on natural character are positive) through the LUDP and BSUDP process.

I consider the proposal will likely be consistent with Policy 13.

Policy 14: Restoration of Natural Character

This policy promotes restoration or rehabilitation of natural character in the coastal environment.

Opportunities to restore natural character include:

- Removing redundant structures and concrete slabs used as part of the existing coastal edge and returning these areas to foreshore (de-reclamation)
- The existing ad-hoc seawalls will be replaced with uniform, fit for purpose structures resulting in some natural character benefits through a more consistent coastal edge.
- The restoration of intertidal areas achieved through creating texture on the new concrete seawalls and revetments to enable ecological habitats to be re-established.
- Restoration and maintenance of fish passage and ongoing monitoring to ensure fish passage is maintained
- Enhancing habitat for penguins and coastal birds at Whiorau Reserve, Bishops Park and HW Shortt Park.
- Retaining and enhancing natural rocky outcrops where practicable.

Overall, I consider the proposal to be consistent with Policy 14.

Policy 15: Natural features and natural landscapes

No outstanding natural features, outstanding natural landscapes or areas with outstanding natural character have been identified in this coastal environment.

Conditions of consent have been recommended to ensure that significant adverse effects are avoided.

Natural features and landscapes within the Eastern Bays coastal environment include the headlands and beaches at the respective bays and the seagrass beds. Recommended conditions of consent seek to ensure that these natural features and landscapes are appropriately protected.

I am satisfied the proposal is likely to be consistent with Policy 15.

Policy 17: Historic heritage identification and protection

This policy aims to protect historic heritage in the coastal environment. The Skerrett Boatshed is the only known heritage or archaeological sites within the project footprint. However, as outlined in this report this structure will not be affected by the proposal.

I consider the proposal consistent with Policy 17.

Policy 18: Public Open Space

This policy aims to recognise the need for, and to provide for, public open space in and adjacent to the CMA. The assessment of Objective 4 of the NZCPS above is relevant to the assessment of this policy.

The proposed Shared Path has been designed in a manner that is sensitive to the natural character, natural features and amenity values of the coastal environment by pushing out the existing heavily modified coastal edge and upgrading existing seawalls to accommodate the Shared Path. One of the key objectives of the project is to improve pedestrian and cyclist safety and to increase the number of users on the corridor. The proposal will provide a safe and integrated walking and cycling facility that connects communities along the Eastern Bays and will at a minimum maintain, and in most situations enhance, public access to the CMA, public open space qualities and use and enjoyment of the coastal marine area, within and around Wellington Harbour.

The project considers the likely impact of coastal processes and climate change and will provide the first step in enabling the Marine Drive road corridor to respond to the challenges of climate change and sea level rise. In the short-term the proposal will reduce overtopping and the frequency of debris on the road, resulting in an increase in the level of protection to users of Marine Drive (and the Shared Path) from natural hazards.

The proposed seawalls are effectively an extension of the existing road carriageway and will not compromise the ability for future generations to access the CMA.

I consider that the proposal is consistent with Policy 18.

Policy 19: Walking Access

This policy aims to maintain and enhance walking access to and along the CMA. The assessments of objective 4 and Policy 18 of the NZCPS as outlined above are relevant to the assessment of this policy.

Pedestrians do not currently have a safe corridor for pedestrian access between the Eastern Bays. Pedestrians are required to use the road shoulder, which is very narrow or non-existent in sections. The project will provide a dedicated facility for pedestrian (and cycle) access and therefore enhance public walking access along Marine Drive, within and between the individual bays, to and from Lower Hutt and surrounding suburbs and to other regional walking routes.

The project will maintain and otherwise improve walking access to the beaches through provision of steps and ramps and stepped seawalls which will enable easier access to some of the beaches and headlands than the existing situation.

I consider the proposal is consistent with Policy 19.

Policy 20: Vehicle access

The application describes no new vehicle, boat or kayak access is proposed. Instead, the proposal replaces existing boat ramps in the same (or similar) location, albeit now parallel to the seawalls to maintain access for swimmers and the launching of paddle boards, kayaks and small boats. This will avoid the need for vehicles to use the beaches in the long-term.

Machinery and vehicles will be required to drive on the beaches during construction activities. The effects of driving on the beaches have been assessed in the construction effects on intertidal and subtidal ecology section of this report. Conditions of consent consistent with best practice have been recommended to ensure that disturbance associated with driving on the beach is avoided or otherwise minimised.

I consider the proposal is consistent with Policy 20.

Policy 22: Sedimentation

Policy 22 requires that development does not result in a significant increase in sedimentation in the CMA. The proposal will result in temporary sedimentation in the CMA during construction works. The effects of this have been assessed and mitigation recommended through consent conditions.

The applicant proposes to undertake relatively minor excavations in the CMA and adjacent shoreline in order to complete the proposed works and has provided a methodology which sets out overarching details of how erosion and sediment will be managed on site during the works. The guiding principle of the construction methodology is that the works be undertaken in a ‘dry’ work environment. This will be achieved by undertaking works in low tide conditions and by installing bunds or other features (shuttering systems or sheet piles) and implementing dewatering to maintain a dry working environment. Expert assessment has determined that the potential volumes of sediment generated during this project would not be sufficient to cause any modification to local habitat.

Based on the assessment undertaken, the proposal will not result in a significant increase in sedimentation in the CMA.

I consider the proposal is consistent with Policy 22.

Policy 23: Discharge of contaminants

Of relevance to the proposal Policy 23 requires particular regard to be given to a list of matters when managing discharges to water in the CMA.

Discharges of contaminants associated with the proposal include cementitious products and sediment, and sediment laden water from dewatering activities.

In relation to cementitious products, the applicant proposes to implement specific controls for the pouring of concrete, including pouring concrete in dry conditions, or where this is not possible, containing and treating the cement contaminated water before pumping it to the wastewater (trade waste) network for treatment or a separate treatment structure for treatment.

The assessment of Policy 22 of the NZCPS as outlined above is relevant to the assessment of discharges of sediment and sediment laden water. This assessment is not repeated here.

Overall, the water quality effects assessment considers the matters listed in Policy 23. Expert assessment concludes that the adverse effects from construction related discharges on the receiving environment can be appropriately mitigated through the recommended conditions of consent.

Overall, I consider the proposal is consistent with Policy 23.

Policy 25: Subdivision, use and development in areas of coastal hazard risk

This policy sets out how activities in areas potentially affected by coastal hazards over at least the next 100 years are to be managed.

The project avoids increasing the risk of social, environmental and economic harm from coastal hazards and instead provides the first step in incremental upgrades to mitigate the effects of sea level rise. Dr Dawe confirms the proposal will provide a reduction in the rate of overtopping onto Marine Drive during smaller storms however there is unlikely to be any discernible change to the overtopping hazard as the low seawall/Marine Drive crest elevation will remain unchanged. Detailed design will consider further design improvements to mitigate overtopping where possible.

Noting that the Eastern Bays coastline is already modified with existing hard protection structures along most of the project length, natural defences or soft engineering options (beach nourishment) have been incorporated into the design, wherever practicable, and a range of treatment options have been considered to protect existing infrastructure from coastal hazards. Dr Dawe has advised proposed beach nourishment will, in the short-medium term, enhance natural defences and reduce coastal hazard risks. The applicant considers replacement

of the existing seawalls is the only short-medium term option available to protect the only transport route and lifeline connections connecting the Eastern Bays to Lower Hutt and the wider region. The replacement of the seawalls and construction of the Shared Path to buffer Marine Drive from coastal hazards will 'buy some time' to allow HCC to develop and implement a long-term suite of planning pathways to adapt to the effects of ongoing sea-level rise and climate change along Marine Drive in accordance with the DAPP under MFE Guidance.

I consider the proposal is consistent with Objective 25.

13.1.2 Summary on NZCPS

Overall, I consider that the proposal is broadly consistent with the NZCPS. However, the proposal is inconsistent in part with Objective 1 and potentially wholly inconsistent with Policy 11 due to the adverse effects on oystercatchers being potentially more than minor

13.2 National Policy Statement for Urban Development

Policy 1

Pedestrians (and cyclists) do not currently have a safe corridor to move within or access the Eastern Bays. Pedestrians (and cyclists) are required to use the road shoulder, which is very narrow or non-existent in sections. The proposal will provide a dedicated facility for pedestrian (and cycle) access and therefore enhance public access along Marine Drive, within and between the individual bays, to and from Lower Hutt and surrounding suburbs and to other regional walking routes. The path also offers opportunities. In addition to a full modal shift, the Shared Path encourages a multi-modal shift where rather than walking or cycling to a chosen final destination, a resident of the Eastern Bays area may use the Shared Path to travel from the Eastern Bays area to a point where public transport facilities are available to complete the rest of their journey by rail, bus or ferry. Providing a mode shift away from the private vehicle, towards the more active and sustainable travel options of walking and cycling will have a direct impact (albeit undefined) on reducing the levels of CO^2 emissions produced by private vehicles.

The risks of natural hazards are addressed earlier in this report. I consider that adequate allowance has been made for rising sea levels, waves and currents, storm surges and earthquakes.

I consider the proposal is consistent with this policy.

13.3 Regional planning instruments

The relevant regional planning instruments are the Regional Policy Statement (RPS), the Operative Regional Coastal Plan (RCP) for the Wellington region and the Proposed Natural Resources Plan (Appeals version Court Order 8 October 2020).

The applicant's proposal has been assessed against the relevant objectives and policies contained within the RPS, and the RCP and PNRP.

13.3.1 Regional Policy Statement (RPS)

The RPS outlines the resource management issues of significance to the region and provides a framework for managing the natural and physical resources of the region in a sustainable manner. Further to this, the RPS identifies objectives, policies and methods which are designed to achieve integrated management of the natural and physical resources of the whole region.

Section 4.2 of the RPS contains regulatory policies to be considered when processing resource consent applications. I have assessed the application against all relevant policies within the RPS.

Policy 35

Policy 35 contains specific provisions that must be considered when assessing whether natural character in the CMA will be preserved. These matters are considered below:

- Potential adverse effects of discharges and sediment release during the construction activities can be appropriately managed

- The proposal incorporates mitigation measures to appropriately protect the natural character of the bays and beaches within the project footprint

- The shape of the reclamation will generally follow the existing landform on the coastal margins of Marine Drive which is already heavily modified with existing seawalls and protection structures.

- Beach nourishment managed in accordance with the BNP and supporting monitoring framework and appropriate detailed design in accordance with LUDP and BSUDP processes can appropriately mitigate adverse effects on natural character.

- The proposal will enhance recreation amenity and recreation opportunities as the proposal will formalise and enhance access to existing beaches and the public will be able to walk and cycle around the Eastern Bays

- The proposal will restore and maintain passage for indigenous fish species between freshwater and coastal ecosystems

While effects on penguins and shoreline foragers such as gulls and shags can be appropriately avoided and mitigated to an acceptable level through recommended conditions of consent, there is concern loss of foraging habitat and feeding resources for oystercatchers will lead to a decline in the success of breeding for this species and lead to an overall decline in the number of oystercatchers. I have recommended the applicant provide more information in relation to the potential effects on oystercatchers at the hearing.

The proposal for the most part is consistent with Policy 35, however because the effects on oystercatchers are potentially more than minor, I consider the proposal is inconsistent in part with Policy 35.

Policy 36

As assessed above, I consider the proposal has a functional need to be located within the CMA. The potential adverse effects of the project on natural character are assessed as being Low in bays with no safety barrier and Moderate in bays with a safety barrier. Further opportunities to mitigate and even improve effects on natural character are available during the detailed design process.

The Eastern Bays coastline is a highly modified environment that is vulnerable to climate change and sea level rise which will be subject to significant change in the future as the community responds to climate change and sea level rise.

The proposal includes opportunities to remedy or mitigate previous damage to natural character. In this regard the existing ad-hoc seawalls will be replaced with uniform, fit for purpose structures resulting in some natural character benefits and a small area of existing seawall not required will revert to the CMA. Other opportunities to restore natural character include:

- The restoration of intertidal areas achieved through creating texture on the new concrete seawalls and revetments to enable ecological habitats to be re-established.

- Restoration and maintenance of fish passage and ongoing monitoring to ensure fish passage is maintained.

The proposal will enable Marine Drive to maintain current levels of service in the face of climate change and sea level rise, and expand its transportation function to include a cycle and walkway while improving safety and reducing congestion. The project also improves the resilience of underground infrastructure by providing a more structurally sound structure between coastal hazards and the infrastructure located in the road corridor.

I consider the proposal is consistent with Policy 36.

Policy 37

This policy requires particular regard to be given to safeguarding the life-supporting capacity of coastal and marine ecosystems.

For the most part, the proposal includes appropriate mitigation measures to protect the integrity, functioning and resilience of physical and ecological processes in the Eastern Bays coastal environment, including avoiding seagrass and subtidal rocky reef habitat, providing textured seawalls for intertidal biota, avoiding and mitigating effects on penguins and shoreline foragers, restoration and maintenance of fish passage, beach nourishment with suitable material, and sediment control measures.

There remains concern that a loss of foraging habitat and feeding resources for oystercatchers will lead to a decline in the success of breeding for this species and lead to an overall decline in the number of oystercatchers. I have recommended further information be provided by the applicant in respect of the management of effects on oystercatchers.

Because the proposal is potentially unable to safeguard the life supporting capacity of breeding and foraging habitat for oystercatchers, I consider the proposal is inconsistent in part with Policy 37.

Policies 40 and 41

In relation to these policies, the proposal will result in temporary sedimentation in the CMA during construction works and there is also the potential for discharges of cementitious products to coastal waters. Recommended conditions of consent will also ensure any discharges of these contaminants are avoided or otherwise minimised to an acceptable level.

Overall, I consider that, subject to the applicant's mitigation measures and the recommended conditions of consent, the proposal will effectively minimise the effects of the earthworks so that healthy marine and aquatic ecosystems are sustained, and the proposal is therefore consistent with this policy.

I consider the proposal is consistent with Policies 40 and 41.

Policy 43

Clauses related to the protection of groundwater areas and maintenance of fish passage are relevant to the proposal.

There is a risk construction activities may breach the aquitard and therefore encounter artesian pressure during construction works north of Lowry Bay which may be required to extend up to 5m BGL to reach suitable bearing ground. Conditions of consent requiring a specific methodology for managing effects of excavation activities on the aquifer where any works exceed 2.5 m BGL have been recommended. Expert advice has confirmed this should provide for consideration and management of any potential adverse effects on the aquifer.

The proposal will restore and maintain passage for indigenous fish species between freshwater and coastal ecosystems.

I consider the proposal is consistent with Policy 43.

Policies 48 and 49

In relation to these policies, I consider that the proposal has given regard to the principles of the Treaty of Waitangi, as the application has been publicly notified and with specific notice sent to the two local iwi groups – Ngāti Toa and PNBST.

The applicant also consulted with PNBST and Ngāti Toa prior to lodging the application and a Cultural Impact Assessment (CIA) prepared by Raukura

Consultants on behalf of PNBST has been submitted in support of the application.

Recommended conditions of consent include the provision for local iwi to be involved in the detailed design process (as part of the LUDP) which will provide an opportunity for local iwi to input in the development of a suitable design element that gives recognition of the Maori connection with the project as requested in the CIA.

No submission was received from Ngāti Toa or PNBST in relation to this consent application.

Policies 51 and 52

These policies outline the matters particular regard must be given to for natural hazards and hazard mitigation measures.

The Eastern Bays coastline is already modified with existing hard protection structures along most of the project length. Natural defences or soft engineering options (beach nourishment) have been incorporated into the design, wherever practicable, and a range of treatment options have been considered to protect existing infrastructure from coastal hazards. Proposed beach nourishment will, in the short-medium term, enhance natural defences and reduce coastal hazard risks and maintain beach area for recreation amenity purposes and backshore habitat available to coastal birds. Dr Dawe has confirmed that soft engineering options such as large scale beach nourishment are not appropriate in the Eastern Bays as such measures would be out of character with the natural amenity and character of the beaches and would likely adversely affect nearshore ecology, including seagrass meadows.

The existing seawall has a residual life of less than 5 years in places, is vulnerable to failure and does not provide consistent storm mitigation across its length due to the ad-hoc nature of the protection structures. The applicant considers upgrade and replacement of the seawalls to be the only short-medium term option available to protect the only transport route and lifeline connections linking the Eastern Bays to Lower Hutt and the wider region.

The applicant considers the proposal a first step in incremental upgrades to mitigate the effects of sea-level rise. The replacement of the seawalls and construction of the Shared Path to buffer Marine Drive from coastal hazards will 'buy some time' to allow HCC to develop and implement a long-term suite of planning pathways to adapt to the effects of ongoing sea-level rise and climate change along Marine Drive in accordance with MFE Guidance. Expert review has confirmed that the proposal does not lock the applicant into a certain design response going forward and Dr Dawe confirms the proposal will provide a reduction in the rate of overtopping onto Marine Drive during smaller storms. Detailed design at each section of the Shared Path will consider further design improvements to mitigate overtopping where possible.

Overall, I consider the proposal to be consistent with Policies 51 and 52.

Policy 53

The project area includes areas of indigenous biodiversity values and habitats. This policy aims to give regard to enhancing public access to and along the CMA adjacent to these areas.

There is currently no safe corridor for pedestrian (or cycle) access within and between the Eastern Bays. The proposal will provide a dedicated facility for pedestrian (and cycle) access along the coastal edge and enhance public walking access, within and between the individual bays, to and from Lower Hutt and surrounding suburbs and to other regional walking routes. As the Shared Path will be located on the coastal edge this will contribute to people's recreational enjoyment and appreciation of the CMA and the significant biodiversity values of the Eastern Bays.

The project will maintain and otherwise improve walking access to the beaches through provision of steps and ramps and stepped seawalls which will enable easier access to some of the beaches and headlands than the existing situation.

Policy 57

The proposal will enable Marine Drive to expand its transportation function to include a cycle and walkway, as well as build resilience into the existing road and underground infrastructure through the provision of the Shared Path and rebuilding and maintaining the seawalls.

The proposal has formed a key component of the Wellington Regional Land Transport Strategy (2015) and achieves the key outcomes identified, including increased mode share for pedestrians and cyclists, reduced greenhouse gas emissions, reduced road congestion, improved road safety and improved land use and transport integration. The proposal is aligned with the New Zealand Cycleway project and will create better connections between the Eastern Bays, Eastbourne and the surrounding urban centres including Hutt and Wellington CBDs. It has therefore been assessed as having significant regional and national benefits

I consider the proposal is consistent with Policy 57.

13.3.2 Operative Regional Coastal Plan (RCP)

The RCP contains objectives and policies aimed at avoiding, remedying or mitigating the potential adverse effects of use and development in the coastal marine area. Those provisions that require specific assessment or comment are outlined below.

Section 4 – General objectives and policies

Objective 4.1.2

There are significant economic and health (and safety) benefits from the proposal and therefore it contributes to the economic wellbeing of people and community and it is considered an appropriate use and development.

The protection of natural character, open space, public access and the amenity values of the coastal environment have been carefully considered through this report. To meet acceptable safety standards the Shared Path needs to extend into the CMA in places. However, I am satisfied the extent of the project in the CMA has been reduced as much as practicable, taking into account the physical and social/safety constraints on the landward side of Marine Drive.

The proposal will enable Marine Drive to expand its transportation function to include a cycle and walkway, as well as build resilience into the existing road and underground infrastructure through the provision of the Shared Path and rebuilding and maintaining the seawalls. I consider this to be ensuring the continued provision of essential public services.

Where possible the proposal enables the widening of the legal road without compromising other values of the coastal environment. Integrated decision-making has involved inputs from different public agencies along with mana whenua and has resulted in the integrated development of a project that achieves safety outcomes, while providing resilience benefits in a manner that protects (to the extent practicable) effects on the coastal environment.

Notwithstanding there may be loss of significant (in the regional context) coastal habitat for penguins, oystercatchers and other foraging birds, sites of significant indigenous biological diversity have been avoided to the extent practicable. Conditions have been recommended to ensure effects on the last known seagrass beds in Wellington Harbour will be avoided.

In the long-term the proposal will result in an increase in public open space available for recreation opportunities along the Eastern Bays coastal margins.

Objective 4.1.4 and Policy 4.2.10: Life supporting capacity

For the most part, the proposal includes appropriate mitigation measures to protect the life supporting capacity of ecosystems in the Eastern Bays coastal environment. There is concern loss of foraging habitat and feeding resources for oystercatchers will lead to a decline in the success of breeding for this species and lead to an overall decline in the number of oystercatchers. The potential effects of the proposal on oystercatchers therefore may be more than minor and may not safeguard the life supporting capacity of breeding and foraging habitat for oystercatchers. This could lead to an overall decline in oystercatcher numbers.

Consequently, I consider the proposal may be inconsistent with these provisions.

Objective 4.1.5 and Policy 4.2.2: Natural character

As identified in the assessments above, no outstanding natural features, outstanding natural landscapes or areas with outstanding natural character have been identified in this coastal environment. Significant adverse effects have been avoided, and mitigation measures have been incorporated into the project design and recommended conditions seek to further mitigate any potential adverse effects on natural character, natural features and landscapes.

The Project is therefore considered to be an appropriate use and development of an area where natural character has already been compromised.

I consider the proposal is consistent with these provisions.

Objective 4.1.8 and Policy 4.2.16: Public access

This policy aims to maintain and enhance walking and cycling access to and along the CMA.

The project will enhance public access along Marine Drive, within and between the individual bays, to and from Lower Hutt and surrounding suburbs and to other regional walking routes.

The project will maintain and otherwise improve walking access to the beaches through provision of steps and ramps and stepped seawalls which will enable easier access to some of the beaches and headlands than the existing situation.

I consider the proposal is consistent with these provisions.

Objective 4.1.9; Policies 4.2.19 and 4.2.20: Amenity values

Although areas of high-tide beach used for recreation activities are lost to the proposed seawalls, beach nourishment has been proposed to mitigate this effect and maintain existing high-tide beach areas. Beach nourishment also has the potential to enhance access to and the availability of beaches as nourishment will make the beaches more resistant to sea level rise in the short-term.

The proposal will improve pedestrian and cyclist safety, increase the number of recreational opportunities and improve access to existing recreational opportunities between and within the Eastern Bays. The project will enhance public access along Marine Drive and provide enhanced connections within the individual bays between different bays, to and from Lower Hutt and beyond and to other regional walking or cycle routes.

Public access to the beaches will be maintained, and in certain places, enhanced. Beach access accommodates beach users on foot and also boat or kayak users through provision of boat ramps.

I consider the proposal is consistent with these provisions.

Objectives 4.1.11 and 4.1.12; Policy 4.2.21: Natural hazards

The project avoids increasing the risk of social, environmental and economic harm from coastal hazards and instead provides the first step in incremental upgrades to mitigate the effects of sea level rise. The proposal will provide a reduction in the rate of overtopping onto Marine Drive during smaller storms.

Objectives 4.1.14 and 4.1.16: Tangata whenua

I consider the values of tangata whenua and their traditional uses have been recognised and provided for. The application was publicly notified with specific notice sent to the two local iwi groups – Ngāti Toa and PNBST.

The applicant also consulted with local iwi prior to lodging the application and a Cultural Impact Assessment (CIA) prepared by Raukura Consultants on behalf of PNBST was submitted in support of the application.

Notifications as prescribed by MACA were sent by the applicant to seek the views of the groups that have applied for recognition of customary marine title in the area. The application states that no project specific feedback was received from MACA applicants to date.

I consider the proposal is consistent with these provisions.

Objectives 4.1.19, 4.1.20 and 4.1.25; Policy 4.2.42: Integrated decision making

The proposal includes activities above and below MHWS and activities which have effects that need to be considered by both GWRC and HCC Consents. The applicant applied for consent for all activities concurrently and the consent application was jointly notified.

The application has been considered holistically with respect to the effects on the coastal environment and technical experts involved in the review of the application have been engaged by both councils where applicable.

Section 5 - Reclamation

Objective 5.1.1 and Policy 5.2.6: Minimising reclamation

The design utilises the existing road corridor along Marine Drive, wherever possible. Following extensive investigation, assessments and community consultation, a 3.5 m shared path that widens the road on the seaward side has been proposed. At some locations, this width has been reduced to 2.5 m to minimise the encroachment of beaches, to accommodate obstacles and ensure reclamations are no larger than the minimum necessary to provide for a safe and resilient shared pathway. The width of the path is governed by the minimum design standards for a safe and functional shared path. Based on the conclusions of Mr Kellow in relation to the appropriateness of the path width I am satisfied the reclamation has been minimised.

I am satisfied the reclamation has been avoided to the extent practicable and otherwise minimised.

Objectives 5.1.2; Policies 5.2.3, 5.2.4, 5.2.7 and 5.2.8: Alternatives to reclamation

The assessment of Policy 10 of the NZCPS as outlined above is relevant to the assessment of these provisions.

As discussed, the applicant has undertaken an assessment of alternatives related to the proposed reclamation. This assessment has concluded that there are no practicable alternatives to the reclamation.

The shape of the reclamation will generally follow the existing landform on the coastal margins of Marine Drive which is already heavily modified with existing seawalls and protection structures. Materials will be used that are visually and aesthetically compatible with the adjoining coast and materials used in any reclamation will be free from contaminants, being restricted to clean sands, gravels and rock.

I consider that adequate allowance has been made for rising sea levels, waves and current, and storm surges. The proposed seawalls will provide a more solid foundation and be more structurally robust than the existing seawalls. The applicant confirms proposed seawalls will be more resilient to earthquakes than existing structures.

I consider the proposal is consistent with these provisions.

Objective 5.1.3

Breeding and foraging habitat for 'Threatened' and 'At Risk' indigenous bird species considered sensitive and rare will be reclaimed by the Shared Path. However, reclamation of seagrass and subtidal rocky reef habitat will be avoided.

The proposal is inconsistent with this Objective.

Policy 5.2.1

The adverse effects of the proposal have been considered and balanced against the positive effects of the use and development of the Shared Path. I have recommended the applicant provide further information to enable a conclusion to be drawn on the level of adverse effects in relation to oystercatchers.

Policy 5.2.5

There is concern loss of foraging habitat and feeding resources for oystercatchers will lead to a decline in the success of breeding for this species and lead to an overall decline in the number of oystercatchers. I have recommended further information be provided by the applicant in respect of the management of effects on oystercatchers.

Section 6 - Structures

Policy 6.2.2

As described above, for the most part, the proposal includes appropriate mitigation measures to protect the integrity, functioning and resilience of physical and ecological processes in the Eastern Bays coastal environment. There is concern loss of foraging habitat and feeding resources for oystercatchers

will lead to a decline in the success of breeding for this species and lead to an overall decline in the number of oystercatchers.

Consequently, the proposal may be inconsistent in part with this policy. I have recommended further information be provided by the applicant in respect of the management of effects on oystercatchers.

Policy 6.2.3

The Eastern Bays coastline is already modified with existing hard protection structures along most of the project length. However, natural defences or soft engineering options (beach nourishment) have been incorporated into the design, wherever practicable, and a range of treatment options have been considered to protect existing infrastructure from coastal hazards. The project replaces existing ad hoc seawall and coastal defences that are largely no longer fit for purpose with a coherent and modern seawall, and revetment structures at locations that require additional protection. Soft engineering options such as large scale beach nourishment are not appropriate in the Eastern Bays as such measures would be out of character with the natural amenity and character of the beaches and would likely adversely affect nearshore ecology, including seagrass meadows.

I consider the proposal is consistent with this policy.

Policy 6.2.5

The risks of natural hazards are addressed earlier in this report. I consider that adequate allowance has been made for rising sea levels, waves and current, and storm surges. The applicant confirms proposed seawalls will be more resilient to earthquakes than existing structures. I consider the proposal is consistent with this policy.

Section 8 - Deposition

Objective 8.1.3; Policies 8.2.1 and 8.2.6

The aim of the proposal, and recommended conditions, require the characteristics of the beach nourishment material to be used and the beach slope formed, to be as close as possible to the existing beach, and adverse effects on flora and fauna and natural values of the beach areas be avoided or otherwise minimised.

I am satisfied the proposal can meet these provisions.

Section 10 - Discharges

Objective 10.1.3; Policies 10.2.2, 10.2.3 and 10.2.9

The waters within the Eastern Bays nearshore environment (and wider Wellington Harbour) are identified in the RCP as having to be managed for contact recreation purposes. Appendix 6 of the RCP sets out the criteria for managing water for contact recreation. The guideline in Appendix 6 requiring no conspicuous change in colour may not be met and the proposal is inconsistent

with Policies 10.2.2 and 10.2.3 on this matter. However, this would be limited to certain conditions during the construction period only.

The waters within the Eastern Bays foreshore are identified in the RCP as having to be managed for shellfish gathering purposes. Appendix 6 of the RCP sets out the criteria for managing water for shellfish gathering purposes. After reasonable mixing it is considered that the discharge from the project will meet the criteria set out in Appendix 6.

Policy 10.2.4

This policy allows discharges which do not meet policy 10.2.1, 10.2.2 and 10.2.3 under certain circumstances. As any discharge from construction activities will be temporary the proposal is consistent with Policy 10.2.4.

Policy 10.2.8

Conditions of consent have been recommended requiring the applicant to develop and implement appropriate measures to monitor discharges during construction activities. The development of this monitoring is required to be in consultation with GWRC advisors and will be managed by the CEMP process.

13.3.3 Proposed Natural Resources Plan

Objectives O1, O2, O3 and O4: Ki uta ki tai: mountains to the sea

These objectives relate to the holistic management of resources and recognising the intrinsic values of freshwater to the social, economic and cultural wellbeing of the community.

I consider that the proposal is consistent with these provisions.

Objectives O9 and O10; Policies P9 and P10: Beneficial use and development

These provisions require that recreational values and public access to the coastal marine area are maintained and enhanced.

Although areas of high-tide beach used for recreation activities are lost to the proposed seawalls beach nourishment has been proposed to mitigate this effect and maintain existing high-tide beach areas. Beach nourishment also has the potential to enhance access to and the availability of beaches as nourishment will make the beaches more resistant to sea level rise in the short-term.

The proposal will improve pedestrian and cyclist safety and increase the number of recreational opportunities and improve access to existing recreational opportunities between and within the Eastern Bays. The project will enhance public access along Marine Drive and provide enhanced connections within the individual bays between different bays, to and from Lower Hutt and beyond and to other regional walking or cycle routes. As the Shared Path will be located on the coastal edge this will contribute to people's recreational enjoyment and appreciation of the coastal marine area.

Public access to the beaches will be maintained, and in certain places, enhanced. Beach access accommodates beach users on foot and also boat or kayak users through provision of boat ramps.

I consider the proposal is consistent with these provisions.

Objective O12; Policies P12 and P13: Regionally significant infrastructure

The Shared Path is considered Regionally Significant Infrastructure (RSI), being an integral component of the Strategic Transport Network as part of the regional cycling network classified as having a combined utility and recreational focus identified in the Wellington Regional Land Transport Plan 2015.

Objective 12 and Policy 13 require the benefits of regionally significant infrastructure to be recognised by having regard to, amongst other things, the location of existing infrastructure, and the operational requirement of maintaining and upgrading regionally significant infrastructure. Policy 13 states that the use, operation, maintenance and upgrade of regionally significant infrastructure are beneficial and generally appropriate. The benefits of the proposal as regionally significant infrastructure have been taken into consideration throughout this assessment.

Objectives O14 and O15; Policies P17, P18, P19, P20, P21: Māori relationships

I consider the relationships of Māori and their culture and traditions with their ancestral lands, water, sites and wāhi tapu and other taonga have been recognised and provided for through providing for the relationship of mana whenua with Nga Taonga Nui a Kiwa, being in relation to this proposal, Te Whanganui-ā-Tara (Wellington Harbour).

The application was publicly notified with specific notice sent to the two local iwi groups – Ngāti Toa and PNBST. No submission was received from Ngāti Toa or PNBST in relation to this consent application.

The applicant also consulted with local iwi prior to lodging the application and a Cultural Impact Assessment (CIA) prepared by Raukura Consultants on behalf of PNBST and has been submitted in support of the application.

Recommended conditions of consent include the provision for local iwi to be involved in the detailed design process (through the LUDP) which will provide an opportunity for local iwi to exercise kaitaikitanga and input in the development of a suitable design element that gives recognition of the Maori connection with the project as requested in the CIA.

The proposed conditions of consent will also assist with maintaining the mauri of the coastal waters by avoiding or mitigating adverse effects on water quality.

The coastal marine area is identified in the statutory acknowledgements from the Port Nicholson Block Claims Settlement Act 2009, and from the Ngāti Toa Rangatira Claims Settlement Act 2014, and these have been given regard to during the processing of this application.

I consider the proposal is consistent with these provisions.

Objectives 20 and 21; Policies P27, P28 and P29: Natural Hazards

These provisions relate to ensuring the risk from natural hazards and adverse effects of climate change on people, the community and infrastructure are acceptable, including that inappropriate use in high risk areas (including the coastal marine area) is avoided.

The PNRP defines high risk areas as including all areas of the CMA. Objective O21 and Policy P27 are therefore relevant to the application. The proposal is not considered to be an inappropriate use or development.

The replacement protection structures have a functional and operational need to be located at this location and are not considered to be an inappropriate use or development.

The replacement of the seawalls and construction of the Shared Path buffer Marine Drive from coastal hazards. The project avoids increasing the risk of social, environmental and economic harm from coastal hazards and instead provides the first step in incremental upgrades to mitigate the effects of sea level rise. The proposal will provide a reduction in the rate of overtopping onto Marine Drive during smaller storms however there is unlikely to be any discernible change to the overtopping hazard as the low seawall/Marine Drive crest elevation will remain unchanged. Assessment has also determined that the proposal is not expected to cause adverse effects on natural or coastal processes within the Eastern Bays as the coastal margin is already highly modified. Nor will it exacerbate erosion, scour or overtopping in other areas or cause adverse effects on adjacent seawalls or other structures. As such, I consider the proposal to be consistent with Policy P27.

Policy P28 requires that hard hazard engineering mitigation and protection methods be avoided, except where necessary to protect existing development from unacceptable hazard risk and adverse effects are no more than minor or the works form part of a hazard risk management strategy. The proposal is required to protect existing development from hazard risks that are deemed unacceptable due to the potential consequences on the lifeline connections (Marine Drive and MOP). The applicant has provided a hazard risk management strategy in support of the proposal and acknowledges that HCC have allocated budget and are in the process of gathering information to develop and implement a longer term climate change strategy for the Eastern Bays community. Dr Dawe has confirmed the risk management strategy submitted is appropriate.

In regards to Policy P29, the proposal is consistent with this policy as it has taken into account storm surge and potential changes and effects due to climate change as a result of sea level rise, in accordance with the MfE 2017 guidance, through to 2120. The replacement of the seawalls and construction of the Shared Path buffer Marine Drive from coastal hazards and will ‘buy some time’ to allow HCC to develop and implement a long-term suite of planning pathways to adapt

to the effects of ongoing sea level rise and climate change along Marine Drive in accordance with the DAPP and MFE Guidance.

I consider the proposal is consistent with these provisions.

Objectives O23 and O24: Water quality

These provisions require that water quality is maintained or improved. As the project is a coastal site (O24(b)(ii)), it must meet as a minimum the objectives in Table 3.3. The proposal will not affect *E. coli* or enterococci levels.

Coastal water quality will be maintained to a level that is suitable for the health and vitality of coastal and marine ecosystems, contact recreation and Māori customary use. Specifically, the primary contact recreation and Māori customary use objectives in Table 3.3 as relevant to the open coast are expected to be met. There is the potential for the proposal to generate localised higher than existing levels of suspended sediment during the construction stage, however these effects will be temporary and are not expected to endure beyond one tidal cycle or 24 hours in the event of heavy rainfall. Conditions of consent have been recommended to avoid or otherwise manage any discharges of sediment. The reworking of beach sediments by the change to nearshore hydrodynamics will have a negligible effect on sedimentation rates or suspended sediment concentrations within each bay and the wider Wellington Harbour. Dr Oliver has confirmed she is satisfied that turbidity (suspended sediment) from the project will not exceed ambient levels in Wellington Harbour.

To further avoid or minimise effects on water quality, pouring of concrete in situ will be done in the dry and if not the contaminated water will be pumped away and treated.

I am satisfied the proposal will maintain water quality in accordance with these provisions.

Objective O25

The proposal will maintain biodiversity in accordance with the parameters in Table 3.8 of O25, namely the proposal will be consistent with the objectives for seagrass, fish, invertebrates mahinga kai and sedimentation.

The proposal is consistent with this Objective.

Policy P31: Biodiversity

Policy P31(b) requires the proposal to maintain or improve water quality to meet the prescribed water quality objectives. As identified above the proposal meets these objectives.

Policy P31(c) requires the proposal to maintain or restore aquatic habitat diversity and quality, including the natural form of the coastal marine area, and (d) requires the restoration of the connections between fragmented aquatic habitats. The proposal will ensure restoration and maintenance of fish passage

and includes ongoing monitoring to ensure fish passage is maintained supported by recommended conditions of consent.

Policy P31(e) requires the proposal to maintain or restore habitats that are important to the life cycle of indigenous birds in the coastal marine area, used for breeding, roosting, feeding, and migration. As identified above, expert advice has determined that subject to the provision of an appropriate number of nesting opportunities supported by habitat enhancement and appropriate pest and dog management, habitat for penguins and shags and gulls can be maintained. However, Dr Uys is concerned that the proposal cannot maintain foraging habitat for oystercatchers which may affecting breeding success. Therefore, the proposal may be inconsistent with this part of the policy. I have recommended further information be provided by the applicant in respect of the management of effects on oystercatchers.

The proposal is inconsistent in part with Policy P31.

Policy P32: Adverse effects on biodiversity

Policy P32 relates to the management of biodiversity not identified as 'significant' and allows the effects management hierarchy to be used to manage effects.

Biodiversity not considered significant that is affected by the proposal include the intertidal and subtidal community (excluding seagrass) and freshwater fish species located within the project footprint. There will be no significant effects on these species.

In relation to the intertidal community (the subtidal community is not affected by encroachment) proposed seawalls include mitigation and enhancement measures to be provided through textures and habitat complexity features on the surface of proposed seawalls and revetments and are expected to result in a greater abundance and diversity of intertidal biota than currently exists.

In relation to freshwater fish, the proposal will ensure restoration and maintenance of fish passage and includes ongoing monitoring to ensure fish passage is maintained supported by recommended conditions of consent.

I consider the proposal is consistent with Policy 32.

Objective O29; Policies 34 and 35: Fish passage

The proposal will ensure restoration and maintenance of fish passage and includes ongoing monitoring to ensure fish passage is maintained and is consistent with these provisions.

Policy P38A: Restoring Wellington Harbour (Port Nicholson)

This policy requires the ecological health and significant values of Wellington Harbour (Port Nicholson) be restored.

P38A(a) the proposal will maintain biodiversity in accordance with the parameters in Table 3.8 of O25, namely the proposal will be consistent with the objectives for seagrass, fish, invertebrates mahinga kai and sedimentation.

P38A(b) the proposal is expected to include provision for a pest management programme to mitigate the ongoing effects of the use of the proposal on penguins and coastal birds in accordance with recommended conditions of consent.

The proposal is consistent with Policy P38A.

Objective O35; Policies P39A and P40: Significant indigenous biodiversity

Objective 35 requires ecosystems and habitats with significant indigenous biodiversity values are protected, and where appropriate restored to a healthy functioning state as defined by Tables 3.4, 3.5, 3.6, 3.7 and 3.8. The proposal will avoid all encroachment on seagrass beds and recommended conditions will ensure adverse effects on the seagrass beds are avoided or otherwise minimised to an acceptable level during construction.

Policy P39A reflects Policy 11 of the NZCPS and requires that adverse effects on 'Threatened' and 'At Risk' indigenous biodiversity and their habitat are avoided.

The proposal will avoid all encroachment on seagrass beds and recommended conditions will ensure adverse effects on seagrass are avoided or otherwise minimised to an acceptable level (less than minor) during construction.

Effects on shoreline foragers such as gulls and shags can be appropriately avoided and mitigated to an acceptable level through recommended conditions of consent. Provided the applicant can accommodate 100 nesting opportunities at an appropriate spacing across the habitat enhancement areas and an appropriate framework for dog and pest management can be developed effects on little penguins can also be considered acceptable.

Dr Uys considers the proposal currently provides no path to manage the effects of habitat loss on oystercatchers and that the project is unlikely to be able to effectively manage the adverse effects of the proposal on oystercatchers. He is concerned that effects on oystercatcher territories may affect breeding success which could lead to a decline in the population of oystercatchers. I have recommended further information be provided by the applicant in respect of the management of effects on oystercatchers.

As such, the current proposal may not avoid adverse effects on oystercatchers to a level where effects are considered acceptable. The proposal may be **contrary** to Policy P39A.

Policy P40 requires the protection and restoration of ecosystems and habitats with significant indigenous biodiversity values. As there is likely to be a loss of oystercatcher habitat which is not currently being replaced or otherwise appropriately mitigated, the proposal is not protecting or restoring ecosystems or habitat in a manner consistent with P40. The proposal may be **contrary** to Policy P40.

Objective O34 and Policy P46: Historic heritage

These provisions aim to protect historic heritage in the coastal environment. Skerrett Boatshed is the only known heritage or archaeological sites within the project footprint. However, as outlined in this report this structure will not be affected by the proposal.

Policy P24 and P48: Natural character

As identified in the assessments above, no outstanding natural features, outstanding natural landscapes or areas with outstanding natural character have been identified in this coastal environment. Significant adverse effects have been avoided, and mitigation measures have been incorporated into the project design to mitigate any potential adverse effects on natural character, natural features and landscapes.

The proposal is therefore considered to be an appropriate use and development of an area where natural character has already been compromised.

I consider the proposal is consistent with these provisions.

Objective O44 and Policies P67 and P72: Discharges

The applicant proposes to undertake relatively minor earthworks in order to complete the proposed works and has provided a methodology which sets out overarching details of how erosion and sediment will be managed on site during the works. The guiding principle of the construction methodology is that the works be undertaken in a 'dry' work environment. This will be achieved by undertaking works in low tide conditions and by installing bunds or other features (shuttering systems or sheet piles) and implementing dewatering to maintain a dry working environment. This will avoid or otherwise minimise the production of the contaminant (sediment) in accordance with the hierarchy in Policy P67. It is not considered practicable to discharge to land given space constraints and that any discharge to land in this environment will likely enter coastal waters shortly after the discharge to land, given the proximity to the coast. In circumstances where dewatered water from excavations contains particularly high levels of sediment or other contaminants the water may be discharged to trade waste.

Expert assessment has determined that the potential volumes of sediment generated during this project would not be sufficient to cause any modification to local habitat.

In accordance with Policy P72, I have recommended a zone of reasonable mixing of 50 m from any point of discharge, which is considered to be sufficient to provide for efficient mixing of the discharge with the receiving waters and is unlikely to cause toxicity effects or adverse effects on species migration.

Based on the assessment undertaken, the proposal will not result in a significant increase in sedimentation in the CMA.

Policy P126: Dewatering

Localised land subsidence resulting from dewatering that affects structures will be avoided. Conditions of consent will ensure the levels and quality of groundwater are appropriately managed.

Policy P136: Hutt Aquifer

This policy requires activities within the Hutt Valley Aquifer Zone are managed to minimise adverse effects on the integrity and functioning of the aquifer.

Recommended conditions of consent require a specific methodology for dewatering and managing potential effects on the aquifer where the excavation and location of the required seawall foundation exceeds 2.5 m BGL to ensure that the risk to the aquifer is appropriately managed.

I am satisfied the proposal is consistent with Policy P136.

Objective O53 and P132: Functional need and efficient use

Objective 53 requires use and development in the CMA to have a functional need or operational requirement to be located there. Policy 132 sets out criteria for activities within the CMA. Use and development within the CMA must have a functional need or operational requirement to locate within the CMA or it shall have no reasonable or practicable alternatives to locating in the CMA. The Shared Path and replacement protection structures have a functional and operational need to be located in the CMA. As outlined above and throughout this report, other alternatives have been considered and are not reasonable or practicable.

With respect to the other matters listed in Policy 132, I am satisfied the reclamation is the minimum size necessary for the proposal taking into account path width design standards, and the Shared Path once constructed will be made available to the public, any redundant structures will be removed from the foreshore (de-reclamation) and the proposal is an extension of an existing activity.

As such, the proposal is consistent with these provisions.

Policy P133 and P134: Recreation amenity and public open space

Although areas of high-tide beach used for recreation activities are lost to the proposed seawalls beach nourishment has been proposed to mitigate this effect and maintain existing high-tide beach areas. Beach nourishment also has the potential to enhance access to and the availability of beaches as nourishment will make the beaches more resistant to sea level rise in the short-term.

Based on the assessment of Mr Kellow I am satisfied the proposal also avoids safety issues consistent with Policy 133.

The proposed Shared Path has been designed in a manner that is sensitive to the natural character, natural features and amenity values of the coastal environment

by pushing out the existing heavily modified coastal edge and upgrading existing seawalls to accommodate the Shared Path. The proposal will provide a safe and integrated walking and cycling facility that connects communities along the Eastern Bays and will at a minimum maintain, and in most situations enhance, public access to CMA, public open space qualities and public use and enjoyment of the coastal marine area, within and around Wellington Harbour.

As such, the proposal is consistent with these policies.

Policy P139: Seawalls

The construction of a new seawall or the addition to or alteration or replacement of an existing seawall is inappropriate except where the seawall is required to protect existing, or upgrades to, infrastructure, new regionally significant infrastructure, or significant existing development, and there are no reasonable or practicable alternative means, the seawalls are subject to appropriate design and include the use of soft engineering options where practicable.

The proposal will protect significant existing development and is considered to be new regionally significant infrastructure. Therefore, the proposal which requires new and replacement seawalls is not inappropriate. An assessment of alternatives has concluded that none are practicable.

Noting that the Eastern Bays coastline is already modified with existing hard protection structures along most of the project length, natural defences or soft engineering options (beach nourishment) have been incorporated into the design, wherever practicable, and a range of treatment options have been considered to protect existing infrastructure from coastal hazards. Soft engineering options such as large scale beach nourishment are not appropriate in the Eastern Bays as such measures would be out of character with the natural amenity and character of the beaches and would likely adversely impact nearshore ecology, including seagrass meadows.

I consider the proposal is consistent with Policy P139.

Policy P148: Driving on the beaches

The use of motor vehicles on the foreshore and seabed in sites with significant value is for local authority and RSI purposes and so does not need to be avoided.

The proposal is consistent with this policy.

Policy P150: Noise and lighting

Policy P150 requires noise in the CMA to be managed by applying the general noise conditions in the coastal management section of the PNRP or by adopting the best practicable option to ensure that the emission of noise does not exceed a reasonable level. The applicant has confirmed that the proposal will comply with prescribed noise standards. Subject to recommended conditions I consider the proposal to be consistent with this policy in regard to noise.

In relation to lighting the application describes street lighting will assessed during the detailed design stage to establish if additional lighting will be required along the route. The provision of street lighting will be addressed through the LUDP and BSUDP process.

The proposal is likely to be consistent with this policy.

13.3.4 Conclusion on policy assessment

Having considered the relevant objectives and policies in the NZCPS and the operative and proposed regional plans, I consider that the proposal will be consistent in part with the direction set out in these documents.

However, I acknowledge that there are some provisions in which the proposal is inconsistent (either in full or in-part) because the current proposal has not avoided or been able to otherwise manage adverse effects on oystercatchers to a level where effects are currently considered acceptable. These provisions include:

NZCPS	**RPS**	**RCP**	**PNRP**
Objective 1	Policy 35	Objective 4.1.2	Objective O35
Policy 6	Policy 37	Policy 4.2.10	Policy P31(e)
Policy 11		Objective 5.1.3	Policy P39A (contrary)
		Policy 5.2.5	Policy P40 (contrary)
		Policy 6.2.2	

I have identified where there is uncertainty about the proposal and further information is required in section 12 of this report. Where this information is relevant to the assessment of the provisions in the relevant statutory documents this has been identified in the assessment above. Of most significance to the statutory assessment I have recommended further information be provided by the applicant in respect of the management of effects on oystercatchers.

14. Other relevant matters 104(1)(c)

14.1.1 Government Policy on Land Transport

The Government Policy on Land Transport 2018 (GPS) helps guide investment in transport by providing longer term strategic view of how projects will be prioritised on the network. While it is still in its infancy, it strongly supports a modal shift to lower emission forms of transport, including walking, cycling, public transport and lower emission vehicles.

The following information outlines an assessment of the Project against the four priorities of the 2018 Land Transport GPS. The four priorities are; Safety, Access, Environment and Value for Money.

A submission from NZTA supports the proposal because it is aligned with the four strategic priorities of the GPS and further supports the assessment undertaken against the four strategic priorities outlined in the AEE.

I therefore consider the proposal to be consistent with the GPS.

14.1.2 Regional Land Transport Plan

The proposal has formed a key component of the Wellington Regional Land Transport Strategy (2015) and achieves the key outcomes identified, including increased mode share for pedestrians and cyclists, reduced greenhouse gas emissions, reduced road congestion, improved road safety and improved land use and transport integration.

The project achieves the outcomes of the RLTP.

14.1.3 Sea Level Rise Guidance

The operative coastal guidance provided by the Ministry for the Environment (MfE) is the 2017 edition of Coastal Hazards and Climate Change – A Guidance Manual for Local Government.

The 2017 MfE guidance provides different scenarios of sea level rise to test land-use plans and projects against, to ensure sufficient flexibility is provided to avoid locking in investment or path dependency based around trying to choose a 'best estimate'.

This guidance has been taken into account during consideration of this project.

14.1.4 Marine and Coastal Area (Takutai Moana) Act 2011

Marine and Coastal Area (Takutai Moana) Act 2011 (MACA) addresses rights conferred by customary marine title. Under s62 (3) before a person may lodge an application that relates to a right conferred by a customary marine title order or agreement, that person must notify the applicant group about the application and seek the views of the group on the application.

The application describes the CIA identified a list of applicants under MACA and notifications were sent to the applicant groups on two occasions. No views were received, in response to these notifications.

14.1.5 Draft Hazard Management Strategy for the Wellington Region 2016

The purpose of the Natural Hazards Management Strategy is to help create a region resilient to the effects of natural hazards through a focus on the reduction component of the 4 R's (reduction, readiness, response, recovery). It provides a framework and policy that allows the region to develop consistent responses to the difficult natural hazard issues that we are all facing such as sea level rise, coastal erosion, landslides and liquefaction.

The proposed Shared Path Project will rebuild (in parts) the seawalls along Marine Drive with a series of more robust structures. These structures (concrete curved seawalls and revetment) are placed at locations where they offer the most appropriate protection for the purposes of the Project. The Project also offers

future adaptation options to incrementally upgrade these structures over time to accommodate sea level rise.

14.1.6 Hutt City Council Plans

I defer to Mr Kellow's s42A report for consideration of other matters in relation to HCC jurisdiction.

15. Matters relating to the grant of discharge permits

15.1.1 Section 105

Section 105 (1) of the Act lists additional matters that a consent authority must have regard to when considering applications for a discharge permit that would contravene section 15 of the Act.

The nature of the discharge and sensitivity of the receiving environment is addressed in section 12.6 of this report. The nature of the discharge and sensitivity of the discharge can be summarised as the discharge of sediment (through beach nourishment material and excavation of in-situ rock and beach sediment) and sediment-laden water as a result of dewatering works to the Wellington Harbour.

Due to the nature of the proposed works being within the intertidal zone of the CMA, and the constraints of the surrounding environment, the applicant has stated they require a discharge permit to be able to undertake the proposed project, as discharging to a different receiving environment (e.g. to land) is not practicable.

Section 105(2) of the Act states for resource consent applications for reclamation, the consent authority must also consider whether an esplanade reserve or esplanade strip is appropriate. Section 229 of the Act outlines the purpose of these reserves. Areas of reclamation are located across the project footprint and extend both within and above the CMA. With the exception of one small parcel of land in Mahina Bay the land subject to reclamation is owned by the crown or managed on behalf of the crown by its agents (HCC Transport). The objectives of the project are to enhance public access and enable public recreational use of the coastal margins and mitigate natural hazards.

As public access to the CMA is already provided and the project seeks to enhance it and that once constructed the Shared Path would become part of the road reserve, I do not consider an esplanade strip would provide any useful purpose.

15.1.2 Section 107

Section 107(1) of the Act places restrictions on the grant of resource consents for the discharge of contaminants into water if they cause the following adverse effects in receiving waters after reasonable mixing:

"(c) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:

(d) any conspicuous change in the colour or visual clarity:

(e) any emission of objectionable odour:

(f) the rendering of fresh water unsuitable for consumption by farm animals:

(g) any significant adverse effects on aquatic life."

The proposal involves discharging sediment and sediment laden water that may result in a conspicuous change in visual clarity beyond the zone of reasonable mixing (determined for these works to be 50 m from the source of the discharge.

These discharges have the potential to result in a conspicuous change in visual clarity, however these occurrences would be intermittent (associated only with heavy rain events and abnormal tidal conditions), and temporary (exceedances would last no longer than one tidal cycle, or for 24 hours after heavy rainfall ceases). It is also worth noting that any discharges during heavy rainfall would be unlikely to result in a conspicuous change in clarity, as the sediment concentrations in Wellington Harbour would already be significant, primarily due to the sediment loads carried by the Hutt River entering the coastal environment. The Coastal Processes Assessment and Intertidal Ecology Assessment submitted in support of the application stated that it is highly unlikely that sediment concentrations associated with the project will exceed ambient conditions and this conclusion was accepted by Dr Oliver.

Under section 107(2) of the Act, a consent authority may grant a discharge permit that would contravene section 15 that may allow the effects described in section 107(1) above, if it is satisfied that it meets any of the requirements listed (a) – (c) below.

(a) that exceptional circumstances justify the granting of the permit; or

(b) that the discharge is of a temporary nature; or

(c) that the discharge is associated with necessary maintenance work

I consider that the construction related discharges that may result in a conspicuous change in visual clarity are intermittent (associated only with heavy rain events and abnormal tidal conditions) and temporary over a period of ten years, noting that construction will not be ongoing for this 10 year period.

I therefore consider that the granting of the discharge permit is appropriate.

16. Part 2 of the Act

Consideration of an application under section 104 of the Act is subject to Part 2. "Subject to" gives primacy to Part 2 and is an overriding guide when applying the provisions of the Act.

Part 2 of the Act sets out the purpose of the Act, which is to promote the sustainable management of natural and physical resources, and in sections 6, 7 and 8 sets out matters that consent authorities should consider when exercising their functions under the Act.

16.1.1 Section 6 – Matters of National Importance

In exercising its powers and functions under the Act, GWRC is required to recognise and provide for the matters of national importance listed in section 6 of the Act. I have identified the following matters relevant to this application and have addressed the effects of the proposal on that basis.

(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development

The subject site is located within a modified coastal environment. Current natural character levels for the different bays within the Eastern Bays range from Low to Moderate.

I consider the existing natural character will be preserved subject to the mitigation proposed and recommended conditions.

(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna

There are no intertidal species of conservation concern within the project area and the coastal nearshore environment is assessed as typical of the Wellington Harbour. Encroachment on seagrass beds in Lowry Bay will be avoided and indirect effects on seagrass beds during construction can be managed to an acceptable level.

While effects on penguins and shoreline foragers such as gulls and shags can be appropriately avoided and mitigated to an acceptable level through recommended conditions of consent, there is concern loss of foraging habitat and feeding resources for oystercatchers will lead to a decline in the success of breeding for this species and lead to an overall decline in the number of oystercatchers. The effects of the proposal on oystercatchers may therefore be more than minor.

Based on potential adverse effects on oystercatchers, I consider that the current proposal may not protect areas of significant habitats of indigenous fauna. However, I have recommended further information be provided by the applicant in respect of the management of effects on oystercatchers.

(d) The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers

The project will enhance public access along Marine Drive, and provide enhanced connections within the individual bays between different bays, to and from Lower Hutt and beyond and to other regional walking or cycle routes. As

the Shared Path will be located on the coastal edge this will contribute to people's recreational enjoyment and appreciation of the coastal marine area.

Public access to the beaches will be maintained, and in certain places, enhanced.

Overall, I consider that the proposal will maintain and enhance public access to and along the coastal marine area.

(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

Recognition of the significance of the CMA and the surrounding coastal environment has been provided for through consultation with relevant tangata whenua and the statutory acknowledgements of the coastal marine area in the Wellington Harbour.

The CIA supports the assessment that the adverse effects of the proposal on the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga will be acceptable. Recommended conditions of consent include the provision for local iwi to be involved in the detailed design process (through the LUDP) which will provide an opportunity for local iwi to input in the development of a suitable design element that gives recognition of the Maori connection with the project and the environment as requested in the CIA.

Overall, I consider that the proposal will be consistent with section 6(e).

(f) The protection of historic heritage from inappropriate subdivision, use, and development.

Particular regard has been had for the protection of historic heritage from inappropriate use and development. The proposal will not directly affect any known heritage items (including archaeological sites).

As such, historic heritage will be protected from inappropriate subdivision, use and development.

16.1.2 Section 7 – Other Matters

The other matters to which GWRC must have particular regard in relation to managing the use, development, and protection of natural and physical resources are listed in section 7 of the Act.

Section 12 of this report (assessment of actual and potential effects) specifically addresses the relationship of the Shared Path to a number of these matters, namely:

(a) Kaitiakitanga

(aa) The ethic of stewardship

The applicant has consulted with local iwi PNBST and Ngāti Toa. No submissions were received by either iwi. I consider that all the recommendations

in the CIA have been appropriately provided for in the recommended consent conditions. The applicant has also committed to further consultation with iwi through the detailed design phase of the project which provides a basis for the relevant iwi authorities to work in partnership with the applicant through the course of the project. Tangata whenua will maintain their kaitiaki relationship to the affected coastal environment in this regard.

(b) The efficient use and development of natural and physical resources

To achieve resilience objectives, the project requires upgrade and replacement of seawalls to protect Marine Drive from overtopping and coastal hazards in the short-term. Existing protection structures are located within the CMA and along the coastal margins and therefore replacement protection structures have a functional requirement to be located in the CMA. The replacement and upgrade of these structures has been assessed to be required in future regardless of the Shared Path however the Shared Path provides an opportunity for a more efficient use of natural and physical resources by building the Shared Path atop the upgraded seawalls.

Overall, I consider the proposal is an efficient use and development of natural and physical resources.

(c) The maintenance and enhancement of amenity values

'Amenity values' is defined under section 2 of the Act as *"those natural and physical qualities or characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes"*.

The construction of the proposal will result in an adverse effect on the amenity of the CMA both temporarily and permanently. Areas of high-tide beach used for recreation activities will be lost to the proposed seawalls however beach nourishment has been proposed to mitigate this effect and maintain existing high-tide beach areas. Beach nourishment also has the potential to enhance access to and the availability of beaches as nourishment will make the beaches more resistant to sea level rise in the short-term.

The proposal will improve pedestrian and cyclist safety and increase the number of recreational opportunities and improve access to existing recreational opportunities between and within the Eastern Bays. As the Shared Path will be located on the coastal edge this will contribute to people's recreational enjoyment and appreciation of the coastal marine area.

The proposal will generally follow the existing landform on the coastal margins of Marine Drive which is already heavily modified with existing seawalls and protection structures. The LUDP and BSUDP process and supporting conditions of consent seek to incorporate materials that are visually and aesthetically compatible with the adjoining coast and conditions of consent ensure the materials used in any reclamation are free from contaminants, being restricted to clean sands, gravels and rock.

I consider that overall amenity values will be maintained or enhanced.

(d) Intrinsic values of ecosystems

The Act defines 'intrinsic values' *as those aspects of ecosystems and their constituent parts which have value in their own right, including – h) their biological and genetic diversity; and i) the essential characteristics that determine an ecosystem's integrity, form, functioning and resilience.*

The proposal may have adverse effects on the intrinsic values of indigenous bird ecosystems, and in particular the loss of foraging and breeding habitat for oystercatchers. The foreshore along the project area is identified as a significant habitat for indigenous birds (in the regional context). I have had regard to how this would affect the intrinsic values of the ecosystem, in particular its integrity, form, functioning and resilience.

I have recommended further information be provided by the applicant in respect of the management of effects on oystercatchers.

(f) Maintenance and enhancement of the quality of the environment

Under the Act, 'environment' is broadly defined to include

(a) ecosystems and their constituent parts (including people and communities);

(b) all natural and physical resources; and

(c) amenity values.

Environment also includes the social, economic, aesthetic and cultural conditions which affect matters (a) to (c) or which are affected by those matters. As the consideration of environment encompasses people and communities, I have considered the benefit of the Shared Path to enable the community and wider public to have better to access to and within the Eastern Bays and the provision and enhancement of supporting recreation opportunities. I have also considered the economic benefit the proposal could provide both regionally and nationally.

Some aspects of the environment may not be maintained and enhanced as a result of the proposal. This relates to the loss of foraging and breeding habitat for oystercatchers.

(g) any finite characteristics of natural and physical resources

In assessing the proposal I have had particular regard to the impacts on finite resources, specifically habitats and ecosystems within the CMA. The proposal will result in a loss of approximately 0.3 ha of CMA which is identified as significant habitat for indigenous bird species. The proposal currently provides no path to manage the effects of this habitat loss on oystercatchers and effects on oystercatcher territories may affect breeding success which could lead to a decline in the population of oystercatchers. I have recommended further

information be provided by the applicant in respect of the management of effects on oystercatchers.

(i) The effects of climate change

The effects of climate change and the potential effects on natural hazards have been considered as part of the assessment of this application. Regard has been had to the effects of climate change including taking into account potential sea level rise and storm surges. I consider that, based on the assessment outlined in this report, the effects of climate change have appropriately been considered in the design of the proposed Shared Path.

I do not consider that the other matters listed in section 7 are of relevance to this application.

16.1.3 Section 8 – Principles of the Treaty of Waitangi

Section 8 of the Act requires GWRC to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) when considering applications for resource consent. The Waitangi Tribunal and Courts continue to establish the principles of the Treaty of Waitangi and it is recognised that the principles are continuing to evolve. The two key principles that are of relevance to this application are active protection of Mäori interests and consultation.

The principle of active protection has been described as a "guarantee to Maori to continue a relationship with resources that was as much about their use as about their conservation" *NZ Cooperative Dairy Company Limited v Commerce Commission* (1991). In the context of this application, active protection must be taken into account when considering the tangata whenua relationship with their ancestral land, water, waahi tapu and other taonga.

The general requirements of 'consultation' have been well established by the judiciary and Courts both within and outside the Act. Consultation should facilitate tangata whenua understanding of the effects of a proposal on their relationship with the area in question to a point where the applicant can consider how those effects might be avoided, remedied or mitigated. GWRC requires this kind of information to be able to assess how the Council can meet its statutory responsibilities.

I consider the values of tangata whenua and their traditional uses have been recognised and provided for. The application has been publicly notified and with specific notice sent to the two local iwi groups – Ngāti Toa and PNBST. No submission was received from Ngāti Toa or PNBST in relation to this consent application.

The applicant also consulted with local iwi prior to lodging the application and a CIA prepared by Raukura Consultants on behalf of PNBST and Wellington Tenths Trust has been submitted in support of the application.

Recommended conditions of consent include the provision for local iwi to be involved in the detailed design process (through the LUDP) which will provide an opportunity for local iwi to input in the development of a suitable design

element that gives recognition of the Maori connection with the project as requested in the CIA.

I consider the proposal is consistent with Section 8.

16.1.4 Section 5 – Purpose and Principles

Section 5 defines "sustainable management" as:

"managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enable people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while-

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment."

I have outstanding concerns in relation to the potential adverse effects of the proposal on oystercatchers. However, I consider that there may be a pathway to work through these critical matters and subject to a satisfactory outcome, I consider the proposal could promote the sustainable management of natural and physical resources in accordance with the purpose of the Act, and in accordance with Part 2 of the Act more generally.

Subject to the satisfactory outcome related to the management of effects on oystercatchers, my overall conclusion in respect of Part 2 matters is that the proposal could promote the sustainable management of natural and physical resources. Providing a Shared Path will enable people and communities to provide for their social and economic wellbeing and for their health and safety. Although there are a number of adverse effects on the environment, provided there is a satisfactory outcome to the matters outlined above, I consider that the benefits would outweigh the adverse effects. I also consider that the adverse effects could be avoided, remedied or mitigated to an acceptable level.

17. Conclusions

17.1.1 Regional Coastal Plan

Assessment under the RCP identifies that the proposal is not entirely consistent with the objectives and policies of the RCP, particularly those provisions which are aligned with the direction of the relevant provisions of the NZCPS of which the proposal is also inconsistent (Policy 11) and that effects may be more than minor.

If the applicant is able to provide information that demonstrates the effects on oystercatchers can be appropriately managed I consider the proposal will be

consistent with both the objectives and policies of the RCP and the effects will be no more than minor and therefore acceptable.

17.1.2 Proposed Natural Resources Plan

As the application falls for consideration as a non-complying activity under the PNRP, pursuant to section 104D of the Act a 'gateway test' is required to be met before a decision on whether consent can be granted can be made. Section 104D prescribes that the consent authority may only proceed to the substantive assessment (s104), and make a decision on whether to grant a resource consent application for a non-complying activity, only if it is satisfied that either:

(a) The adverse effects of the activity on the environment will be minor; or

(b) The application is for an activity that will not be contrary to the objectives and policies of any plan or proposed plan

As identified in section 13 of this report, if the potential effects on oystercatchers are more than minor, then the proposal may be contrary to the objectives and policies of the PNRP related to significant indigenous biodiversity values. As such, the proposal may not meet either part of the 'gateway test'.

However, if the applicant is able to demonstrate the effects on oystercatchers can be appropriately managed then I consider the proposal will be consistent with both parts of the 'gateway test' being not contrary to the objectives and policies of the PNRP and the effects will be no more than minor.

17.1.3 Overall conclusion

I consider that the proposal may be inconsistent with the directive 'avoid' requirement of Policy 11 of the NZCPS and the lower order regional planning documents that "give effect" to the NZCPS, having regard to the effects of the proposal as currently presented on significant indigenous biodiversity values, specifically oystercatchers.

I have highlighted uncertainties and information gaps with respect to the effects of the proposal (as outlined in section 12). However, provided these matters are satisfactorily addressed and the adverse effects could be appropriately managed, the proposal would be generally consistent with the direction in the relevant statutory planning documents, and the proposal would promote the sustainable management of natural and physical resources in accordance with the purpose of the Act.

Therefore, it is my view that subject to resolution of these matters, it would be open to decision makers to grant resource consents for the application.

Should consent be granted, I have recommended consent conditions in **Appendix A** of this report. These conditions are identical to the set of conditions included in Mr Kellows' s42A report for HCC Consents.

18. Weighting of the Proposed Natural Resources Plan

As the conclusion reached under the operative Regional Coastal Plan assessment is consistent with that reached under the Proposed Natural Resources Plan, there is no need to undertake a weighting exercise between the two plans.

19. Recommendation

I recommend further information be provided by the applicant to demonstrate that the effects of the proposal on 'Threatened' and 'At Risk' indigenous coastal birds, namely oystercatchers, can be appropriately managed.

20. Duration of consents

20.1.1 Lapse date

If consents were to be granted, pursuant to section 125 of the Act and at the request of the applicant, I recommend a lapse date of ten (10) years from the date of the commencement of this resource consent. I consider this is an appropriate lapse period as it allows sufficient time for the works to commence, with contingency in the event that there are delays.

20.1.2 Consent duration

If consents were to be granted, I consider the following consent durations to be appropriate:

- Section 123(a) of the Act allows for a coastal permit in respect of reclamation [36233] to be granted in perpetuity, unless otherwise specified in the consent. I consider granting the consent for the reclamation of the foreshore in perpetuity to be appropriate, as the reclamation is permanent.

- Section 123(c) of the Act allows for a coastal permit to do something other than reclamation to be granted for a period not exceeding 35 years. I recommend that a duration of 35 years is appropriate for the consent related to permanent structures [36233], as the structures are permanent. This duration is consistent with other consents for permanent coastal structures granted by GWRC.

- In relation to the construction-related consents [37298; earthworks and associated discharges], [37299; discharge permit] and [37300; water permit] under section 123(d), the maximum duration the consents could be granted for is up to 35 years. I recommend a duration of 10 years for the construction-related permits. This duration will allow sufficient time for the works to be completed, with contingency in the event that the works are delayed.

Appendix A: Recommended consent conditions

Appendix B: Provisions of the relevant planning documents

Appendix C: Penguin experts meeting minutes

Appendix D: Esther Bennett (Buddle Findlay) emails

Appendix E: Roger Uys expert review comments

Appendix F: Catherine Hamilton expert review comments

Appendix G: Iain Dawe expert review comments

Appendix H: Sharyn Westlake expert review comments

Appendix I: Jeremy Head expert review comments

Appendix J: Megan Oliver expert review comments

Appendix K: Evan Harrison expert review comments

Appendix L: Rebecca Morris expert review comments