

Tupua Horo Nuku.

Mahina Bay - Design Protocols.

Eastern Bays Shared Path

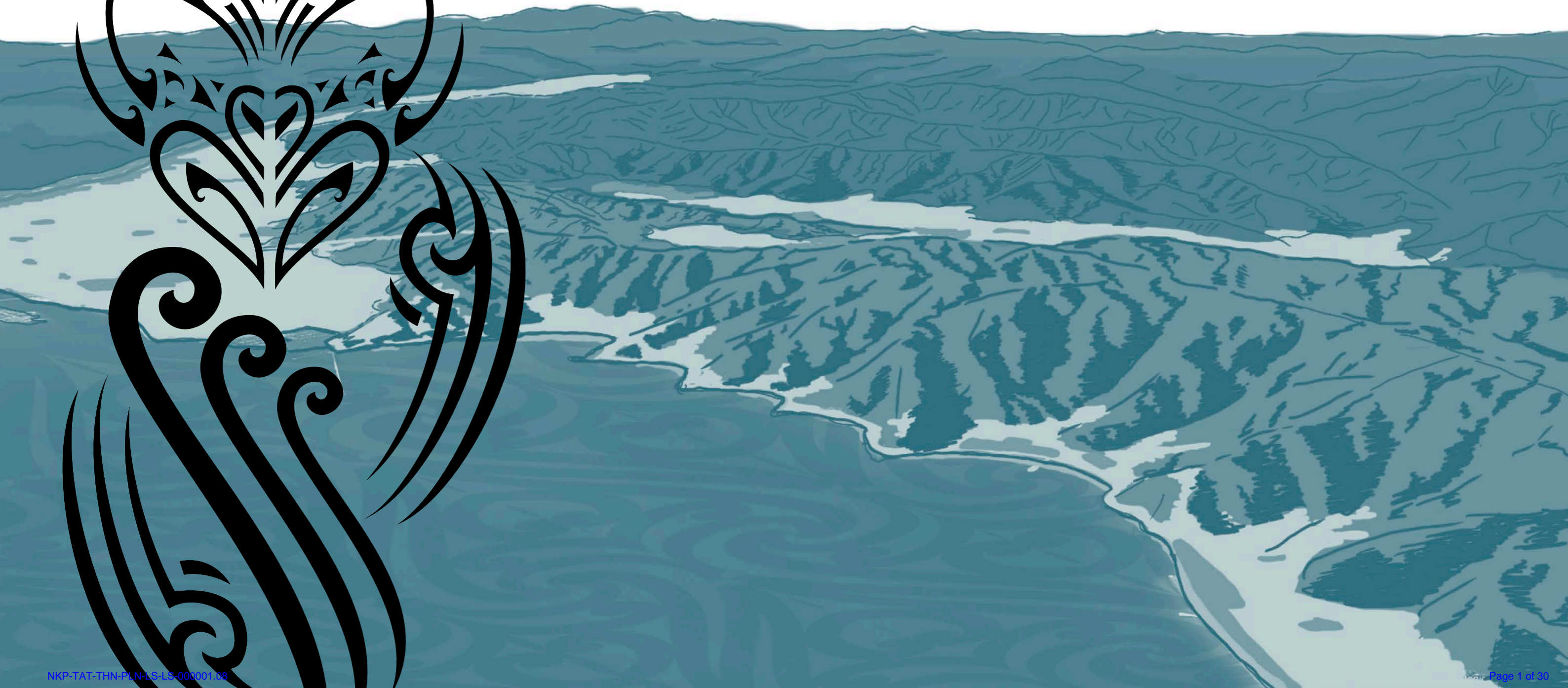
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Te Ara Tupua Alliance

Shifting gear to connect past, present and future



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Tupua Horo Nuku. Eastern Bays.

The Eastern Bay area encapsulates many wahi tapu from Te kongutu o Te Awa Kairangi to Te Waha o te Ikanui. Its beginnings emanate out of the power and mana of Tupua-horo-nuku (evolving mass of solid matter), known as the tupua, Ngake.

Instructed by the mountain clan people who were summoned to the head of the fish, gathering on Pukeatua where they were gifted the appropriate incantations to prise open the mouth of the great catch of Māui-tikitiki-a-Taranga to enable it to breathe again, where they summoned from the great depths of Rua Tupua and Rua Tawhito of the fresh water lake who brought forth Tupua-horo-nuku and Tupua-horo-rangi.

Tupua-horo-nuku, Tupua-horo-rangi
Tai kukume mai takiwā ia mouri e runga
Kia horo wawe mouri e raro koi ikaroa¹

The narrative of the eastern bay speaks of and highlights “te ihi, te wehi me te mana nui o Tupua-horo-nuku.”

Te Awa Kairangi, formed out of the raging whip lashing tail of Ngake as he wound himself up into a frenzy, generating and amassing energy and power, splitting the land mass immediately behind him lacerating Papatūānuku, imbuing “te ara mouri” inland to the Tararua and Remutaka. Whilst at the same time hurling himself towards the barriers hearing the pounding and thunderous waves smashing in the distant. Smashing his way out from his land lock imprisonment to freedom unto Hinemoana and Tangaroa. In his destructive escape came forth the islands of the harbour later to be named by Kupe the pacific navigator, and as centuries passed the peopling of Te Wai-manga arrived gifting new names later to be suppressed through imperialistic and colonial methodologies which are still impacting on us since their arrival in 1769.

Tēnei te ara kei runga
Tēnei te ara o Ranginui e tū nei
Tēnei te ara o Papatūānuku e takoto nei...²

Ripiripia te ika nui
Haehaea te ika roa
Ka hora, ka hora te kai ki a Tamanuiterā
Ka hora, ka hora te kai ki a Tāwhiri-mātea...³

1 He karakia nō te kainga
2 He karakia nō te kainga
3 He karakia nō te kainga

Immediately following the severing, Hine-wai-tootaa and Hine-kōrako went about their duties caressing and gently healing Papatūānuku. Calling upon their sister Hine-wairere they asked her if she could follow the scarification marks of Papatūānuku until she was fully covered to sooth her skin to ease the pain. To this day they still nurture and care for her.

Te Awa Kairangi like many rivers began its life through the kuia Hine-wai-tota, Hine-kōrako and Hine-wairere, being the ancestress of condensation, lunar droplets and water flow gathering on the many peaks on both sides of the river. Fed by melting snow, ice and rainwater running off the land, the collective of droplets follows cracks and crevices within the landscape formed out of the raging whip lashing of the tail of Ngake (seismic activity) in his attempt to escape to freedom from his land lock lake imprisonment.

The many small tributaries joining together growing larger forming the collective mass of Te Awakairangi, flowing every second of the day. The following whakatauaaki encapsulates who the people of Te Ātiawa are and our responsibility for the water and the whenua.

Te Ātiawa tupua rau, he auripo i te manga iti, he auripo i te manga nui rānei, he kaitiaki ki te whenua ⁴

Te Ātiawa of many phenomena's, where there is a ripple in a small tributary or great river, there is a guardian and protector on the land.

Over time the continuous flow of Te Awa Kairangi has shaped the landscape moving and wearing away rock, carving out a network of valleys eventually reaching the lower grounds, widening and reaching the point where the fresh water meets the salt water.

Whakapakarukaru puare te waha o te ika roa Te hononga o ngā wai e rua...⁵

The Eastern Bay commences at the meeting of the waters.

4 Nā Kura Moeahu whakahī
5 He karakia nō te kainga



Figure 1.1 Tupua-Horo-Nuku artwork.
Len Hetet, 2021

Tupua Horo Nuku. The Pathway.

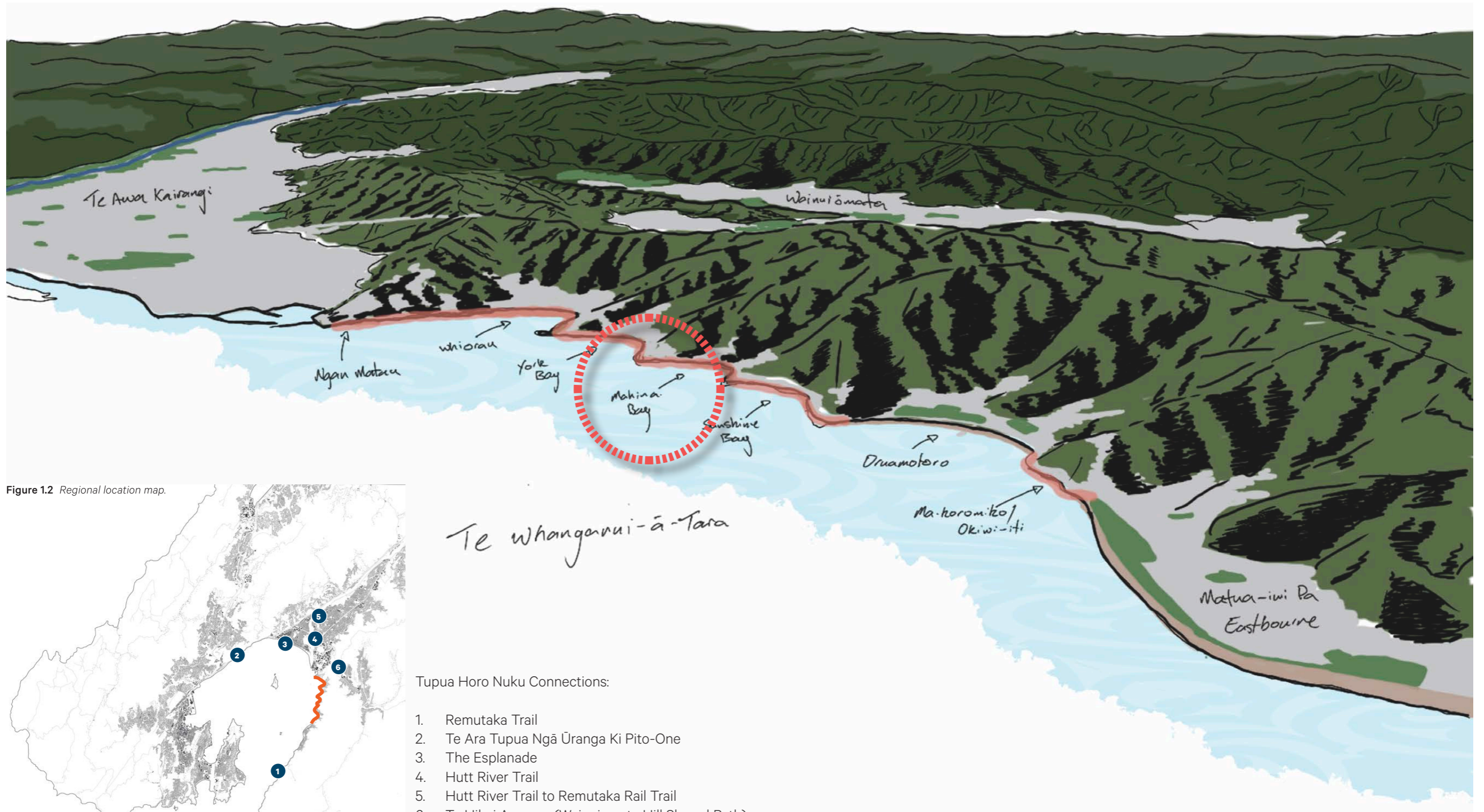


Figure 1.2 Regional location map.

Figure 1.3 Tupua Horo Nuku context.

Tupua Horo Nuku Connections:

1. Remutaka Trail
2. Te Ara Tupua Ngā Ūranga Ki Pito-One
3. The Esplanade
4. Hutt River Trail
5. Hutt River Trail to Remutaka Rail Trail
6. Te Hikoi Ararewa (Wainuiomata Hill Shared Path)

Introduction.

Purpose & Objectives

The purpose of the Bay Specific Urban Design Plan (BSUDP) is to provide bay specific detailed design for the project responding to local landscape character, identity and land use, in the broader context of the Landscape and Urban Design Plan (LUDP).

Consent conditions for the Eastern Bays Shared Path (Tupua Horo Nuku) guide the content of the BSUDP and the preceding LUDP. The conditions outline the purpose of the management plans, the contents of the plans, expert inputs, stakeholders to be consulted, the approval and certification process and how to manage disputes.

Condition LV.6 requires the BSUDP to be submitted in two stages.

Stage 1 is a draft design protocol. Building on the overall design approach and narrative set out in the LUDP. The bay specific design protocol describes the special landscape and natural character of each bay and outlines the aesthetic principles to be applied. Community comment on Mahina Bay is being sought on the draft design protocol.

Stage 2: The final BSUDPs are to be certified either on their own (in accordance with Condition GC.5) or, if included in the initial LUDP, when the LUDP is certified under Condition LV.1. Community aspirations, engineering constraints with urban design and landscape layers are applied to achieve a unique bay specific design, integrated with the Eastern Bays Shared Pathway.

Structure

In satisfying Conditions LV.5 - LV.7 of the Resource Consent the Draft Design Protocol process informing the BSUDPs is:

- Illustrate bay locations and describe the landscape context.
- Ascertain draft priorities for each bay. Priorities include issues involving: safety, access and mobility; engineering; ecology; natural character; landscape; urban design; and recreational and amenity elements.
- Show visual representations of best practice through precedent examples of comparable shared path projects.
- Outline landscape and urban design approaches and principles for each bay to set the scene for design plans and details.
- Develop an illustrative schematic plan for each bay.

Consultation.

Consultation

In accordance with Condition LV.6 the Draft Design protocol for Mahina Bay is required to be provided to the relevant Resident Association for the affected bay, the East Harbour Environmental Association, and the Eastbourne Community Board for comments. A record of the consultation and comments received, together with an indication on responses will be outlined at Stage 2 submission.

Summary of Consultation Process

The consultation process for the Northern Bays of Tupua Horo Nuku was expanded to include an extra step prior to the consultation outlined in the consent conditions. This step was added with the aim of increasing the range of engagement beyond the named organisations. Simplified versions of the Bay Specific Urban Design Plans (BSUDPs) were developed and published on the Hutt City Council website accompanied by a survey which allowed for general public feedback. The questions allowed for open comments on elements of the planned designs that were able to be influenced. The sequence of events for the consultation on the draft designs for York Bay, Mahina Bay and Whiorau Reserve was as follows:

- Simplified draft design protocols were prepared The Eastbourne Community Board and Residents Associations were given advance notice of the consultation period.
- Design protocols were shared online via the Hutt City Council website, alongside a survey on the HaveYourSay engagement website.
- A 25-working-day window for feedback was allowed, and the engagement was promoted publicly throughout this period.
- Comments summarised anonymously and shared with Residents Associations and Community Board.

Consultation then continued in accordance with consent condition LV.6:

- The BSUDPs were provided to the named organisations with a 15 working day time frame for comments.
- An In-Person Meeting was held with residents of York Bay and Mahina Bay to support the process.
- Due to the inclusion of Whiorau Reserve, the BSUDPs were also sent to the Lowry Bay resident's association for comment on that area and notification was given to the project Little Penguin Interest Group at each phase of consultation.

The comments and responses from both stages were collated into a report and the BSUDPs updated for the next stage. This report was issued back to the named organisations. In response to community feedback during the previous phases of BSUDP consultation, an extra step was added to the process to further allow for community input into specific elements of the design. This followed the completion of that which is outlined in the consent conditions and ensures the design continues to reflect the objectives and voice of the community. Option sketches were developed for areas of the design which gathered strong responses from the community and presented back to them for further comment and collaboration. The responses to these have been collated and documented in this BSUDP. Following this, the BSUDP will be updated, finalised, and submitted to the councils for certification in line with the consent conditions.

1. Develop option sketches for elements of design.
2. Present options back to the community.
3. 15 working day window for comment.
4. Update BSUDP.
5. Submit for certification.
6. Circulate certified BSUDPs back to consulted groups and publish on project website.

Timeline for Mahina Bay, York Bay and Whiorau Reserve consultation

Thursday 20th October 2022 (Completed)

Early draft design protocols published on website with survey.

Thursday 20th October – Wednesday 23rd November 2022 (Completed)

Feedback window (25 working days).

Thursday 24th November 2022 (Completed)

Draft BSUDPs sent to EHEA, ECB, York Bay Residents Association, Mahina Bay Residents Association and Lowry Bay Residents Association.

Thursday 24th November – Wednesday 14th December 2022 (Completed)

Comments window (15 working days) – The Project team met with members of York Bay, Mahina Bay and the Eastbourne Community Board during this time.

Wednesday 14th December – Wednesday 18th January 2023 (Completed)
Feedback from the community is compiled and responses are provided to the issues raised. (20 working days – including Christmas shut-down 23 December – 9 January).

Wednesday 8th February – Thursday 16th February 2023 (Completed)
Comments and responses document provided. Development and review of option sketches for further community consultation.

Friday 17th February – Thursday 9th March 2023 (Completed)
Final consultation with community on option sketches.

Early February 2024
BSUDP updated based on GWRC approval to remove northern bus stop and legal review of property acquisition resulting in car park changes.

Wednesday 5th June 2024

BSUDPs finalised and submitted for certification. Once certified, BSUDPs to be distributed back to community.

Summary Table.

<i>Comment Title</i>	<i>Raised by</i>	<i>Description</i>	<i>Project Team Response</i>
Pedestrian speed	Online	Concerns that there will be conflicts between pedestrians, bikes, etc, all moving at different speeds on path – interest in how this will be managed.	Our design uses cultural markings, and other warning markings to slow users at areas of high conflict (i.e. at stair or ramp locations). In other areas, the path has clear sight lines, so path users should be able to minimise potential conflicts. Unfortunately, there is not a lot of space in the area, so there are limits to how wide we can make the path to reduce conflict.
Beach nourishment	Mahina Bay Residents Association, Online	Requested for Mahina Bay More information requested as to amount, frequency, longevity.	Not accepted Beach nourishment is being undertaken in accordance with consent conditions. There is no additional scope for Mahina Bay to be included, but the request has been noted by Hutt City Council (HCC) for future consideration.
Speed limit	Online	Want reduced throughout area	Speed limit changes are out of scope for Tupua Horo Nuku. HCC reduced speed along Marine Drive to 50 km/h as part of their speed reviews in 2023 under the ‘Road To Zero’ safety programme.
Penguins	Online	Concerns for their welfare	Bird Protection Areas are being established at several locations along the shared path. The team also puts measures in place to protect penguins during construction, including ecological sweeps and exclusion zones around nesting sites.
Italian place names	Online	Should be represented alongside English and Māori names	Not accepted The project does not include this type of interpretative signage. The team is looking at other opportunities to share this history.
Emergency access	Online	Concerns as to where vehicles can pull over in emergencies	Due to the very constrained nature of the corridor, it is anticipated that vehicles will need to wait for an area to pull over/into safely (on either side of the road) or in the worst case stop in a live lane. We believe that in many locations this is the scenario that many drivers are currently faced with.
Bollards/kerb blocks	Online	Hazard for cyclists and drivers – too narrow to move between path and road, and for wheelchairs	Not accepted Roadside kerb blocks are currently designed to have 0.5m spacing. These are designed to discourage motorists from entering the shared path and are not intended to allow cyclists to move between the road and the shared path. We have specified that the ends of the kerb blocks are chamfered and painted with a reflective paint. Breaks in the continuity of the kerb blocks are proposed in some locations. These breaks give path users the opportunity to leave the path and encourage road crossing at safer locations.
Double yellows	Online	Should be included to limit passing and improve safety	Partially accepted Double yellow lines have been incorporated into the design in areas where an increased risk has been identified.

Consultation.

Summary Table.

Comment Title	Raised by	Description	Project Team Response
Planting/trees	Mahina Bay Residents Association, Online	Strong preference for all trees along bay to be retained or replaced and for additional shade trees to be included at beach area. Concerns around removal of trees throughout bays – key design principle is to retain coastal vegetation. Should be retaining all trees and adding more vegetation to proposal. Additional planting should take visibility of oncoming cars into consideration. Needs to be sustainable and attractive	Partially accepted The tree in the northern section is consented to be removed and this is required as its location clashes with the proposed new seawall. The tree in the southern section will be removed to accommodate rock revetment repair. All other trees in Mahina Bay are being retained. Proposed planting through bays has been developed with advice from project ecologists and considering the surrounding environment, user experiences, maintenance, and operations factors.
Later addition of infrastructure	Online	Future addition of bins, etc must not obstruct path	Accepted All features proposed as part of the project will take this into consideration. Any future additions of infrastructure would be out of the scope of the project.
Bus shelters	Mahina Bay Residents Association, Online	Placed on pads above road level. Suitable set-back from road. Adequate weather protection and size. Good visibility. Shared path to pass behind shelter. Comments supporting retention of current bus shelters.	The existing bus shelters will now be replaced with standard GWRC shelters. These will, to the greatest extent practicable, be designed with the following design principles: (a) A preference that the shared path run behind the bus stop/ shelter; (b) The bus stop / shelter will be raised (separated with a kerb from the traffic lane where possible); (c) The bus stop / shelter will be designed in accordance with universal accessibility principles (such as, but not limited to, wheelchair friendly ramps and tactile pavers); and (d) Bus stop / shelter design will be fit for purpose to appropriately protect public transport users from the coastal elements. With these principles in mind, the standard GWRC shelter has been considered the best option. The entrance point will be modified to provide further protection from the elements.
Bus shelter	Mahina Bay Residents Association	Further assessment requested as to whether existing can be shifted and kept intact (or some of it). However, do not want to retain existing at expense of useable beach area. Protect some of the history of existing shelter through copying art on to new	The team has further investigated and determined the existing shelter cannot be retained due to their size and nature. There is potential to remove and keep intact for community to use in some other way and we're happy to discuss this further. The team is happy to continuously engage with the community on developing potential options for artwork on the shelters
Northern bus stop locations	Mahina Bay Residents Association, Eastbourne Community Board, Online	Several comments against the relocation of the bus stops <ul style="list-style-type: none"> • Safety risk having northern stop on sharp corner • Too far away from beach area • Takes away parking Couple comments in support of new location – safer option . Comment to remove northern one	It is proposed to remove the northern bus stop, due to its proximity to the other bus stop in Mahina Bay and the stop in York Bay.
Southern bus stop location	Mahina Bay Residents Association, Online	Happy with new location unless way of retaining existing shelter is found. Southern stop less accessible for those who live on Mahina Road. Split preference regarding location of this stop – some in support, others not. Current location is good for beach access	Noted. It is proposed to replace the southern bus stop and move the stop slightly north. This allows for a possible future pedestrian crossing.

Summary Table.

<i>Comment Title</i>	<i>Raised by</i>	<i>Description</i>	<i>Project Team Response</i>
Ramp location	Mahina Bay Residents Association, Eastbourne Community Board, Online	Shift location to close to current ramp, onto sandy part of beach. Several comments regarding the location of the ramps being over rocks and a long way from 'beachy' area and community raft storage/launch space. Also concerns it is not an appropriate area to launch a boat. Preference is to retain current location or move closer to bus stop area.	The ramp will be positioned on the sandy part of the beach, close to where the existing southern bus stop is located.
Ramp design	Mahina Bay Residents Association, Eastbourne Community Board	Needs to be usable for launching boats and community raft – concerns it is too narrow, particularly with addition of handrail	Ramp designs were investigated in response to feedback from community. The team reviewed all options and concluded that the proposed design was the best solution.
Steps	Mahina Bay Residents Association, Eastbourne Community Board, Online	Preference for steps in same or similar location to existing – leading to swimmable part of beach. Concerns regarding their placement over rocks and whether they will have handrails Preference for handrails on all.	Steps and a ramp have been provided near Mahina Road, leading down to the swimmable part of the beach. Handrails will be included on all steps for safety and accessibility.
Northern rock area	Online	Concerns regarding loss of parking in northern Mahina – popular fishing spot. Alternative should be provided nearby. Others in favour of removal for safety and ecology. Requests to see area upgraded and potentially increase road width round corner to allow for larger vehicles.	Partially accepted Three parallel parks will be provided in this area. A new viewing area with seating and additional planting will be established. There is no scope in this project for additional upgrading of this area, but the request has been noted by Hutt City Council for future consideration.
Power poles	Mahina Bay Residents Association, Eastbourne Community Board	Strong preference for undergrounding	Not accepted Undergrounding is outside of the project scope and budget. Poles will be moved seaward and embedded into concrete 'sockets' formed in the seawall. These will be outside of the effective path width to remove any safety hazards to path users.
Parking	Mahina Bay Residents Association, Online	Preference for five parks further south to be placed at northern point instead. Request for removal of car parks opposite Richmond Road or relocation towards northern bus stop. Concern around loss of parking for people who fish at the southern end of the bay.	Partially accepted Three parallel parks will be provided in the northern end and two at the southern end.
Rest area	Online	Preferred location next to harbour edge rather than between carparks and path	Partially accepted The rest area will be located on the seaward side of the shared path. The proposed parking at this location has been removed.
Seating	Online	Replacement seating on beach	Seating is only proposed within the rest areas throughout the path to minimise occupation of the beach space.
Pedestrian crossing	Mahina Bay Residents Association, Eastbourne Community Board, Online	Would like to have one built in future – request that design of path would not impact that	Provision of a pedestrian crossing is out of scope for this project. The southern bus stop will be relocated slightly north to allow for a possible future pedestrian crossing.
Rubble at north end	Mahina Bay Residents Association, Eastbourne Community Board, Online	Request to remove.	Marine sweeps will be undertaken to assess whether a targeted approach to removing sections of rubble can be done without losing the habitat/ecological benefit of the rubble.

Compliance Matrix

Consent Condition.	Response	
<p>LV 5.</p> <p>The LUDP shall include the final BSUDPs for each bay within the Project area. The final BSUDPs shall address detailed design within the particular bay for the benefit of pedestrians, cyclists and others using the local road network as well as the specific urban design, landscape, ecology and recreational amenity matters (including those listed in Condition LV.7) as relevant to the particular bay.</p> <p>The final BSUDPs may be prepared later and added to the LUDP on a staged basis if the Construction Works are staged bay by bay and individually certified under Condition LV.6.</p>	<p>The final Mahina Bay BSUDP will be individually certified and attached to the LUDP on completion.</p>	
<p>LV 6</p> <p>The BSUDPs shall be prepared by the Consent Holder in two stages for each bay:</p> <p>(a) Stage 1: A draft design protocol that sets out the priorities for the bay design in terms of engineering, safety and access and mobility requirements as well as ecology, natural character, landscape, urban design and recreational amenity elements and issues. The draft design protocol shall provide visual representations of best practice on comparable coastal shared path projects to demonstrate the level of design to be targeted. The protocol shall be provided to the relevant Resident Association for the affected bay (if any) The East Harbour Environment Association and the Eastbourne Community Board for comments (if any) within 15 working days from receipt.</p> <p>Any comments received, and the Consents Holder's response and reasons if they are not accepted, are to be provided to the Manager, Environmental Regulation, and Team Leader, Resource Consents alongside the draft design protocol, within 20 working days from receipt of the comments.</p> <p>(b) Stage 2: The final BSUDPs are to be certified either on their own (in accordance with Condition GC.5) or, if included in the initial LUDP, when the LUDP is certified under Condition LV.1.</p>	<p>This draft design protocol sets out relevant priorities for engineering, safety and access and mobility requirements as well as ecology, natural character, landscape, urban design and recreational amenity elements and issues. This draft design protocol will be issued to all relevant parties.</p> <p>Final Mahina Bay BSUDP to be developed and certified following completion of LV6(a).</p>	
Consent Condition.	Response	Page ref
<p>LV 7.</p> <p>The BSUDPs shall include specific landscape and urban design details for:</p> <p>(a) Seawall structures, including transition zones between seawall types and transitions between natural or rocky areas and seawall structures;</p> <p>(b) Beach access including steps, ramps and associated handrails where required, so that people wishing to access the beach can do so safely;</p>	<p>In general, colonised rock will be placed below mean high water springs (MWHs) and non-colonised rock will be placed above MHWs at the seawall transitions (if appropriate). The placement of rock will occur under the guidance of the Project Ecologist and Project Landscape Architect as required.</p> <p>Mini steps with handrails have been located along the extent of Mahina Bay as well as an accessible ramp to access the beach. The construction of additional ramps and access points beyond that shown would increase the amount of reclamation and occupation of the coastal marine area.</p>	<p>Pg 18, 19</p> <p>Pg 20</p>

Consent Condition.	Response	Page ref
(c) Safety barriers and railing and screening barriers between important habitat for Shoreline Foragers and the shared path;	Based on the review feedback received, we have reduced the height of the balustrade (safety barrier) to 1.2m. This height is constant with shared path safety guidance.	Pg 20
(d) The treatment of stormwater structures at the coastal interface;	Stormwater outlets will be in-situ sections between pre-cast wall units. The outlet will sit within the curved seawall via a concrete housing which visually integrates the pipe to the seawall.	Pg 19
(e) Little Penguin and Shore Forager related structures including penguin passage elements, ramps, nests, boxes and wooden poles for roosting;	Where rock revetment is repaired a small fence is proposed to stop penguins from accessing the path and road.	Pg 21
(f) Planting treatment;	Planting areas are located around refuge points and headlands to soften and enhance features. Plant species will be chosen from the Plant Palette within the LUDP that has been developed with the Project Ecologists.	Pg 22
(g) The treatment of existing trees and existing landscape and natural features;	In general existing trees have been retained where possible and are consistent with the consent. Three trees are proposed for removal.	Pg 12-15, 22
(h) The design and area of space available for recreational amenity activities;	The BSUDP has provided the design and area of space available for recreational and amenity values in accordance with Condition LV.7(h).	Pg 12-15, 23, 24, 25
(i) The design and orientation of features, spaces and access points;	Refuge spaces are located to balance user needs, community preference, utilise existing trees for their character and amenity benefits, avoid encroachment on beaches as well as fit within CMA consented footprint. We note that creating further refuge spaces and access points would likely increase the area of the coastal marine area occupied and/or reclaimed, which is not authorised by the resource consents.	Pg 12-15, 23, 24, 25
(j) Refuge and seating opportunities, including size and arrangement of space to allow for stopping and gathering at frequent intervals distributed along the route;	In Mahina Bay we are utilising the headlands and existing pull over spaces. This helps avoid encroachment into the CMA.	Pg 12-15, 23, 24, 25
(k) Signage ensuring their consistency along the shared path, including branding and reduction of visual clutter;	Signage has been designed sympathetically with landscape elements to reduce visual clutter along the shared path. This approach is consistent across all bays.	Pg 25, 23, 24, 25
(l) Storyboards;	The Alliance is taking a culturally led approach and therefore Mouri markers are used as the main interpretation method. Interpretation method used for the pathway in Mahina Bay. Consideration of ecological and other local history as a second layer to be shared will be made through the detailed design process.	Pg 26
(m) Surface treatments; and	A robust palette of materials is used to ensure visual cohesiveness and quality. Predominantly asphalt with sections of concrete. Concrete will also be used for areas where cultural graphics will be applied to the path.	Pg 17, 26
(n) <u>Consideration of a minimum 3 m path width for York Bay only (for a 90 m length south of the existing bus stop; and</u>	Not applicable to Mahina Bay.	-
(o) Any other relevant matter for that bay necessary to achieve the purposes of the LUDP in condition LV.2.	Existing water fountains at Days Bay will service the path, as such waters fountains are not proposed for Mahina Bay. Based on the feedback received, we have adjusted the number of seats with back rests.	Pg 27

1. Urban Design Plan.



Mahina Bay - Urban Design Plan.

LV.6 (a)

Mahina Bay is characterised by:

Mahina Bay, like many bays along Tupua Horo Nuku, is an exposed coastal landscape. Mahina Bay has a settlement pattern nestled across two shallow valleys which contain the majority of development. Some housing extends further into the ridgelines and local headlands.

Along Mahina Bay Marine Drive is constrained between the coastal escarpment and shoreline with a number of properties fronting directly onto Marine Drive. There are three gently sloping gravelly beaches within Mahina Bay just below the road with the main beach at the crest of the bay. Stretches of rock outcrop are intermittent between beaches and towards both ends of the bay.

In the north there is a rocky patchwork seawall with no road barriers. This then transitions into rocky outcrops with mature pohutakawa at road level. A smooth but higher concrete retaining structure continues to the south where it then transitions into the main Mahina Bay beach. There are some remnants of previous concrete structures in the northern beach.

The landscape is heavily vegetated and is roughly the same size as neighbouring York Bay, though more exposed. The bay is more populated towards the main valley and beach with houses consistently elevated on the escarpment.

Marine Drive is sealed to the residential boundary and there are some gravelled parking bays near each end of the bay and on the smaller outcrops. The residential character is strongest near the beach and bus stop with many of the elevated buildings screened by mature trees to the road edge, with garages, driveways, and low retaining walls interspersed with pohutukawa and coastal vegetation.

The current path runs along the coastal edge. The path width varies significantly, generally being wider towards the headlands and along the small outcrops. The path narrows around the main bus stop where the seal and the beach runs up to almost the edge of the road. The existing bus stop further tightens this edge. Street lights are located on the inland side of the road and Power poles are present along the entire coastal edge, occasionally located within the beach itself.

Mahina Bay's northern headland is quite pronounced, with low coastal planting and a small gravelled area with bus stop to its base. There are no mature pohutukawa trees. Alternatively, the southern headland is smaller with informal gravel parking well set back from the road but with no planting except for a single mature pohutukawa tree.

The existing seawall structures in Mahina bay include:

- Rock revetment.
- Sloped concrete wall.
- Sloped concrete with rock wall.







Other features includes

- Bus shelter.
- Concrete steps down to beach.
- Informal concrete ramp on beach.
- power poles.







Mahina Bay General Arrangement Plan - North.

LV.6 (a) LV.7 (g) (h) (i) (j)








Legend.

-  Bus stop
-  Parking
-  Location of Mini steps
-  Wayfinding and signage locations
-  Existing light pole new relocation position
-  Existing power pole new relocated position





Path

-  Timber kickrail
-  Single curved seawall with bench
-  Double curved seawall with bench
-  Triple curved seawall with bench and kickrail
-  Shared Path
-  Concrete Shared path pavement

Ecology and Landscape




-  Known Penguin nesting areas
-  Planting - new or additional
-  Stream Culvert
-  Fish passage- Stream outlet
-  Ecological Enhancement Units Indicative location
-  Tree Retained
-  Tree Removed

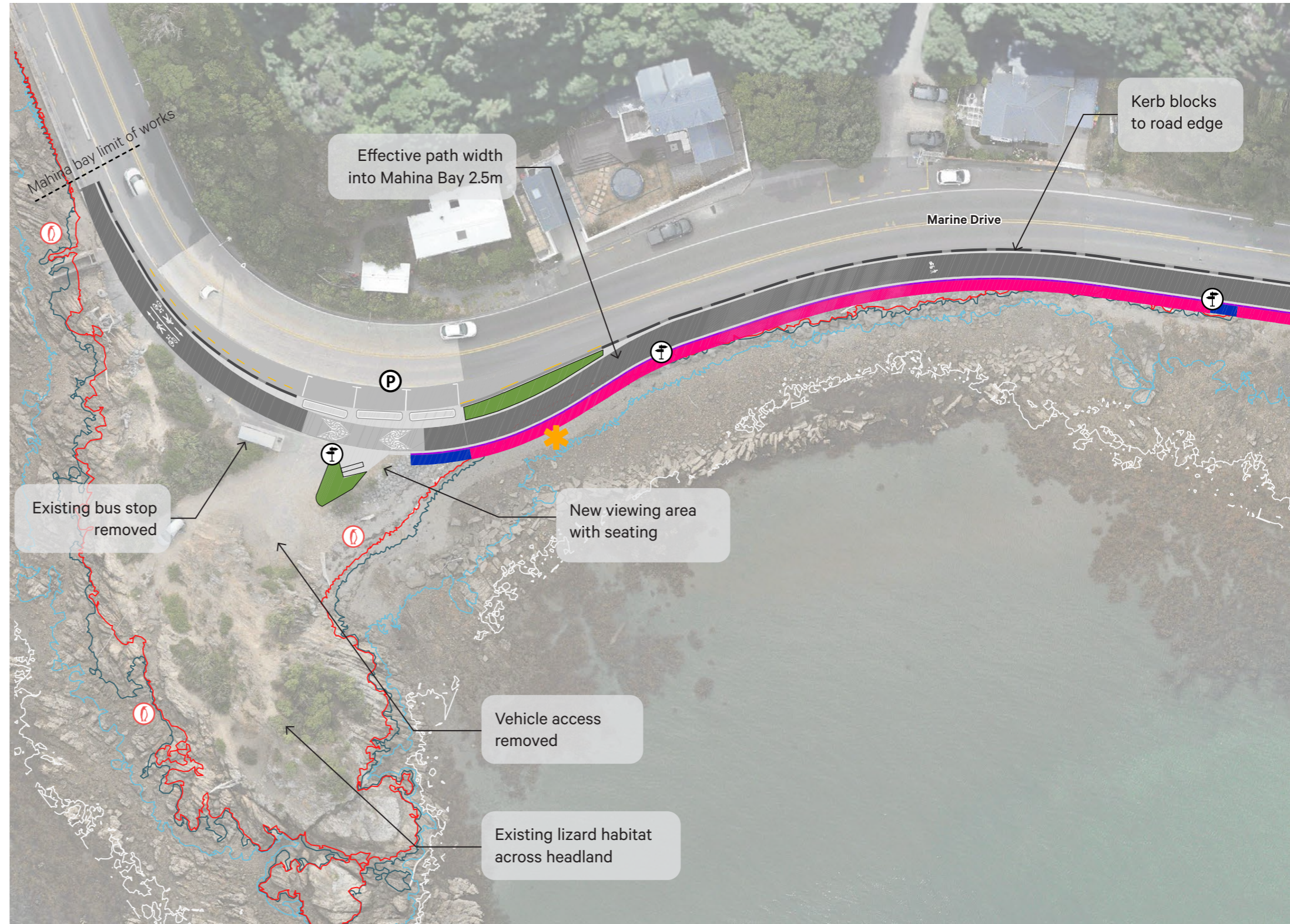
Tides Existing

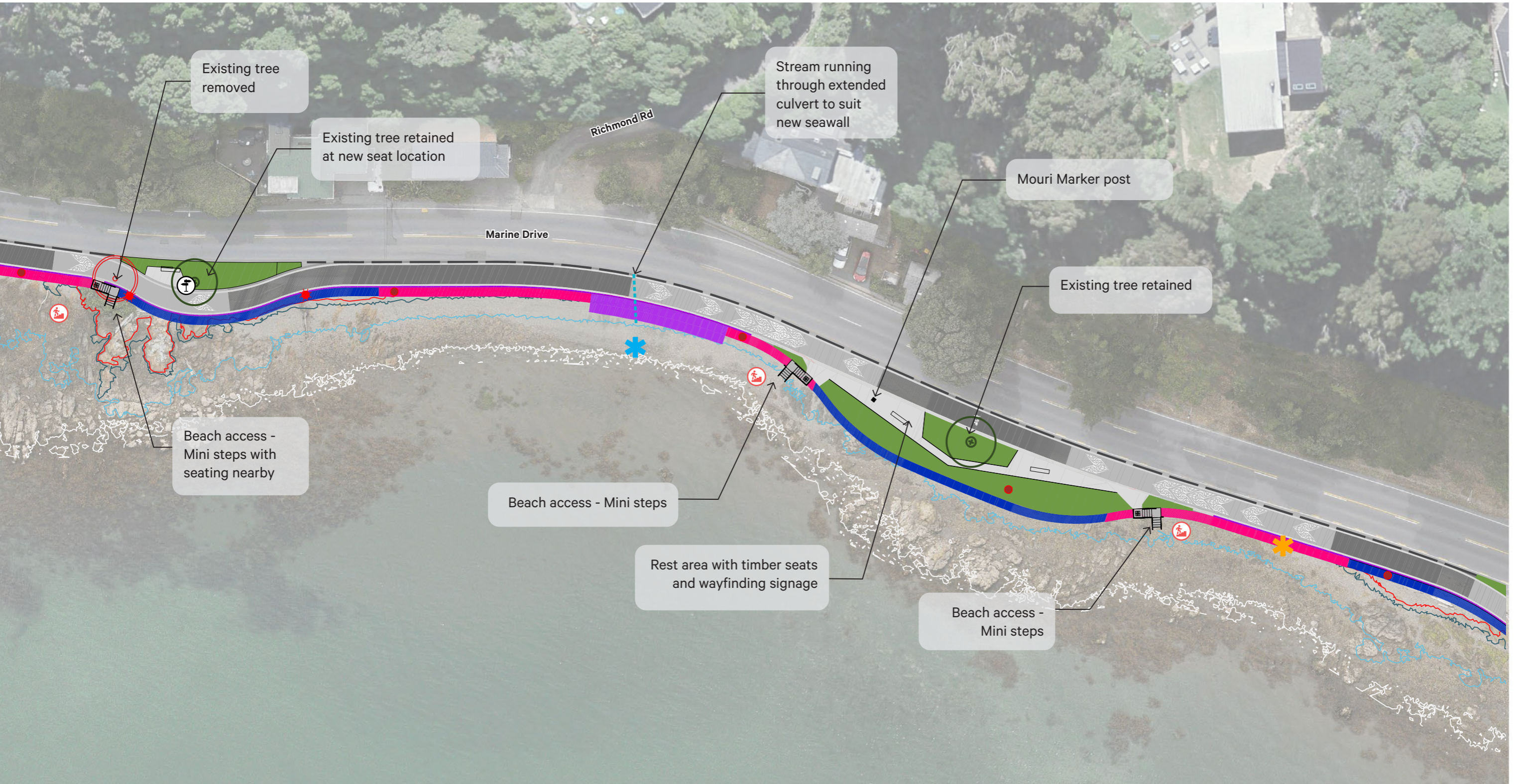
-  Mean High Water Springs (MHWS)
-  High Tide
-  Mid Tide
-  Low Tide

*We anticipate some little penguin activity around culverts in the bay alongside potential nesting areas

Wall Type Sections.

-  Single curved seawall with bench and kickrail
-  Double curved seawall with bench and kickrail
-  Triple curved seawall with bench and kickrail



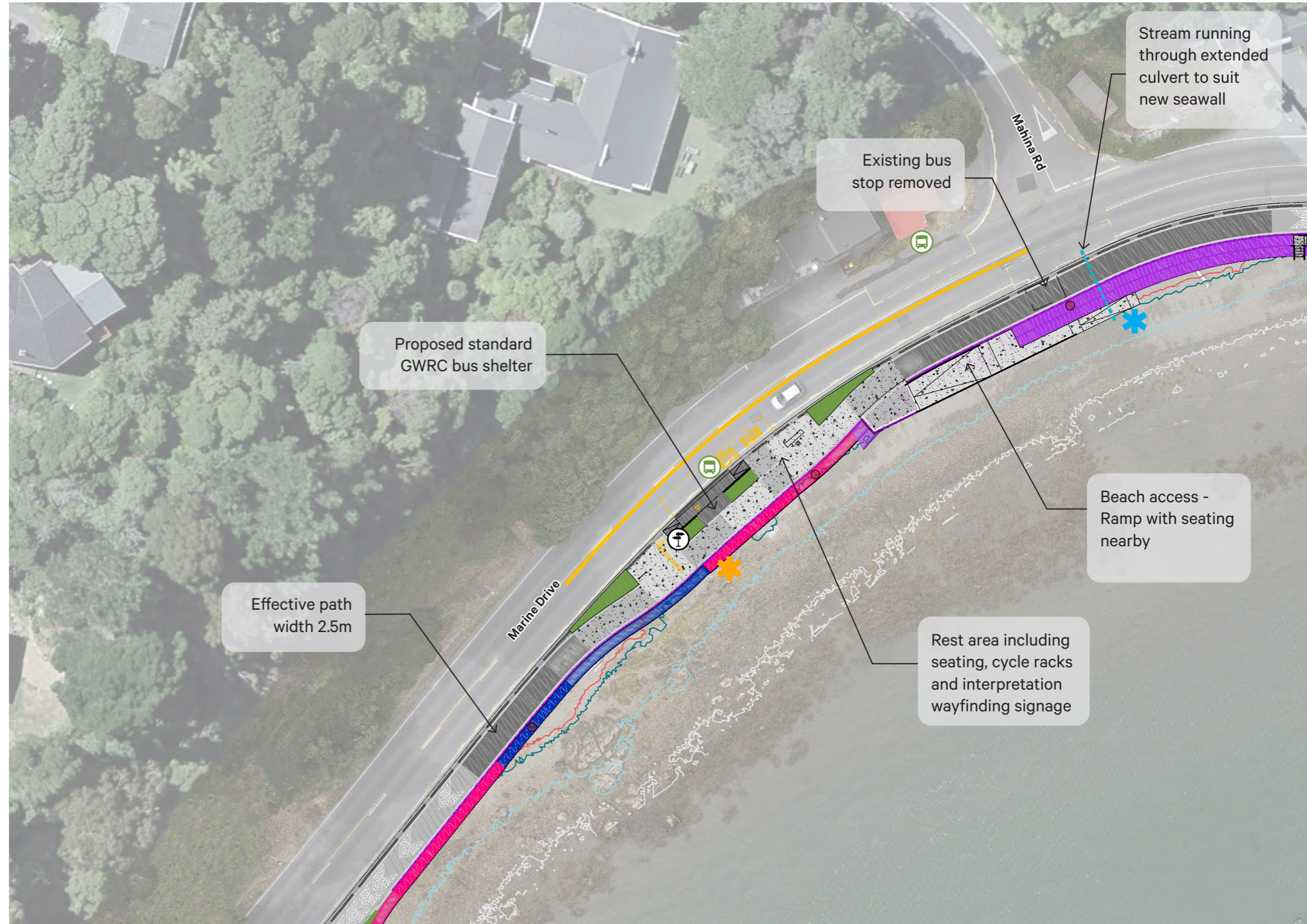


Mahina Bay General Arrangement Plan - South.

LV.6 (a) LV.7 (g) (h) (i) (j)

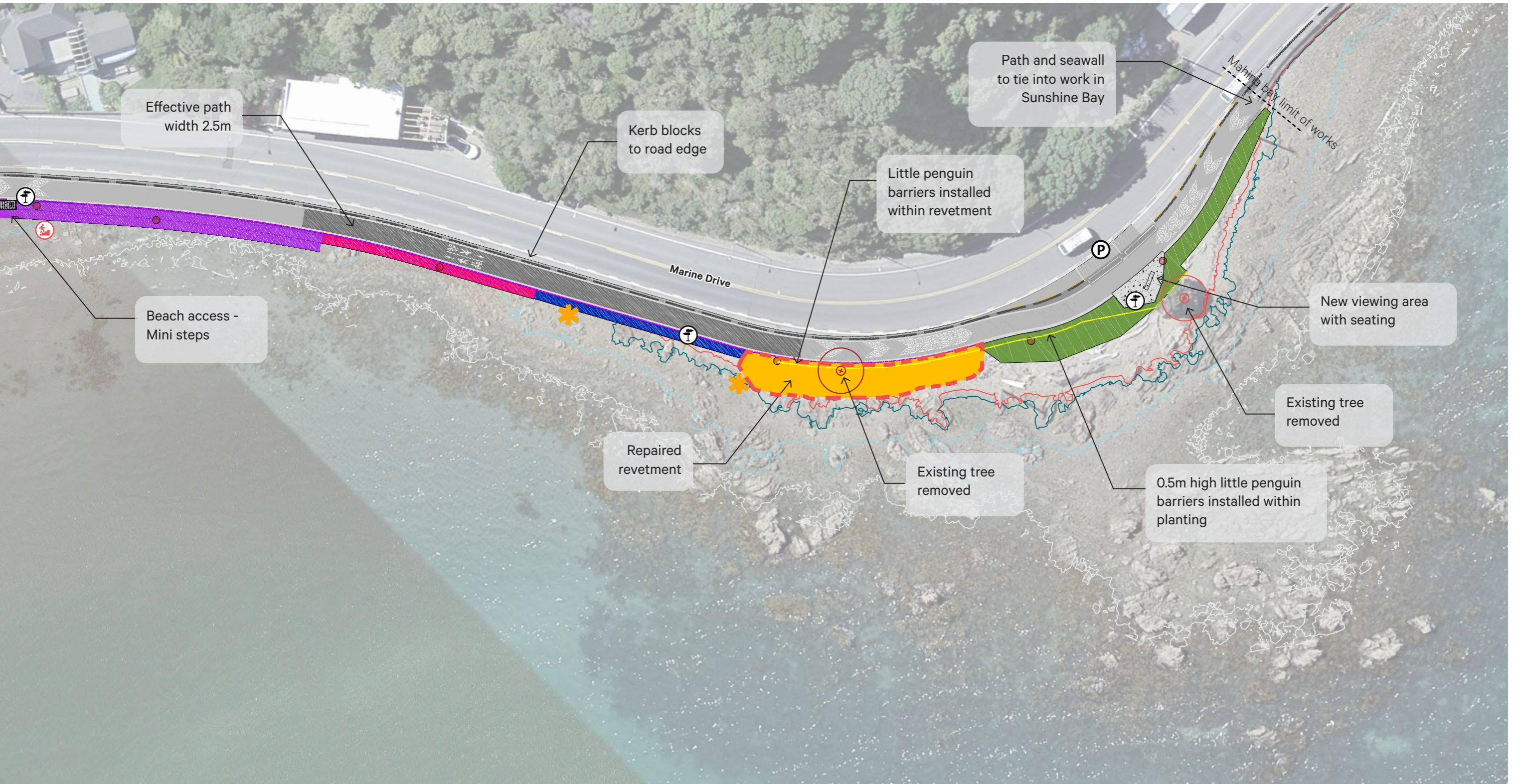
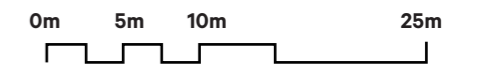
Legend.	
	Bus stop
	Parking
	Location of Mini steps
	Wayfinding and signage locations
	Existing light pole new relocation position
	Existing power pole new relocated position
Path	
	Timber kickrail
	Single curved seawall with bench
	Double curved seawall with bench
	Triple curved seawall with bench and kickrail
	Shared Path
	Concrete Shared path pavement
	Repaired revetment
Ecology and Landscape	
	Known Penguin nesting areas
	Planting - new or additional
	Stream Culvert
	Fish passage- Stream outlet
	Ecological Enhancement Units Indicative location
	Tree Retained
	Tree Removed
Tides Existing	
	Mean High Water Springs (MHWS)
	High Tide
	Mid Tide
	Low Tide

Wall Type Sections.	
	Single curved seawall with bench and kickrail
	Double curved seawall with bench and kickrail
	Triple curved seawall with bench and kickrail



*We anticipate some little penguin activity around culverts in the bay alongside potential nesting areas

1:500 scale bar



Mahina Bay Site Photos.



Figure 1.4 Mahina Bay looking south.



Figure 1.5 Mahina Bay bus stop.



Figure 1.6 Existing seawall at Mahina Bay.



Figure 1.7 Existing revetment and rocky outcrop at north Mahina Bay.



Figure 1.8 Existing steps down to beach area at Mahina Bay.



Figure 1.9 Mahina Bay looking north.

Approach & Principles.

LV.6 (a) LV.7 (f) (m)

Rugged Coastal Environment	<ul style="list-style-type: none"> — Reflect the wild coastal character and narrow edge through minimal disturbance and intervention at the coastal edge. — Retain any rocky outcrops. — Sympathetic transitions between sea walls and natural coastal edges. — Retain fishing access at southern end. 	Maintenance	<ul style="list-style-type: none"> — The selected materials and patterns are durable, designed with longevity in mind, and that are able to be replicated. — Allow native plant species to self establish where conditions are appropriate. — Work with HCC to understand maintenance requirements. — Relocate electricity poles. — Remove concrete blocks and building rubble, previously used for managing coastal erosion.
Less is more	<ul style="list-style-type: none"> — Features added minimise obstruction to views and beach access. 	Bay specific narratives	<ul style="list-style-type: none"> — To be undertaken with mana whenua advisors and artists. Cultural expression to integrated into the overall design in relevant areas.
Maintain integrity of rock outcrops	<ul style="list-style-type: none"> — Rock outcrops are remnants of the existing coastal edge. — Retain the natural form of each outcrop. — Where modification is taking place integrate transition from the outcrop to the structure in a natural way. — Retain in-situ as much of the natural colonized rock as possible during sea wall construction. — In addition, reuse the natural colonized rock removed during construction at the base of the sea walls. — Use natural colonized rock at seawall transitions, particularly those where the concrete sea wall ties back into the natural rocky beach, to integrate the sea wall and eliminate hard concrete edges. 	Materials palette	<ul style="list-style-type: none"> — Hardwood timber - seating, linear barriers, and wayfinding marker posts where required. — Stainless steel - step hand rails, detailing into seating, cycle stands. — Textured concrete - seawall, tidepools, mini steps. — Asphalt and concrete shared path. — Natural colonized rock - sea wall transition points and base of seawall. — Gravel around trees retained.
Retain natural coastal planting	<ul style="list-style-type: none"> — Retain existing pohutukawa trees. — Retain and improve planting to headland areas. 	Plant communities	<ul style="list-style-type: none"> — Enhancement planting to headland areas.
Details and elements			
Consistency	<ul style="list-style-type: none"> — Features and elements a consistent suite across the project. 		
Simple robust forms	<ul style="list-style-type: none"> — Elements such as seating, wheel stops and steps are formed with simple block/rectangular shapes, not to detract from the wild coastal character, yet be simple and accessible to use. 		
Existing structures and elements	<ul style="list-style-type: none"> — Existing bus shelter to be replaced with a standard GWRC shelter. 		

Priorities for Mahina Bay.

Seawall Structures

LV 7. (a) - Seawall types and transitions

Vertical curved seawalls have been chosen across most of the shared path including Mahina Bay because they deflect wave overtopping most effectively and create a reduced footprint on the foreshore compared to other non-vertical seawalls. This design also offers the flexibility to adapt the design to accommodate sea level rise in the future. Seawalls are required to be rebuilt along the majority of the shared path. They are designed to prevent coastal erosion and protect against storm surge and are therefore integral to protecting the shared path.

In Mahina Bay Rock revetment structures are limited to a small rocky shore area where it was desirable to repair and existing rock revetment to reduce wave overtopping. Whilst revetments provide a gradually sloping angle more similar to a natural shoreline, the hard revetment rock does not wear as much over time and thus is less able to be colonised by intertidal biota. The incorporation of softer wearing rock within the revetment surface and transitional areas will help to provide rock material that is more suitable for colonisation, and reuse rock that would otherwise be removed during construction or lost beneath the revetment structure.

The Design Features Report (Stantec, 2019) sets out engineering requirements for the project. The main points can be summarised as:

- The seawall design allows for adaptive pathways to address sea level rise, such as protection to be added on top of the wall in future as required.
- Achieve consistency in the seawall profile throughout the corridor.
- The seawall is to be constructed from reinforced precast concrete units. Construction methodology of the seawall will be determined by site conditions.
- Resilience of the road and underground services was considered in the design.
- Replacement and extensions to stormwater pipes through the wall are to be like for like, and finish flush with the face of the seawall.
- Seawall transitions to be integrated to avoid abrupt ends/divisions. Transitions between seawall types, e.g. between single and double will be managed between access points (steps and ramps). Transitions between wall edges and the existing coastal edge, e.g. at headlands, will be softened/integrated with natural rock. Refer to the seawalls and habitats revetment plan.
- Width of the shared path is to have a 2.5m effective width.
- The path surface is to be mixed asphalt and concrete with a 300mm wide concrete strip on the 'sea side' to define the coastal edge.
- The work is to be an improvement on existing conditions throughout the corridor.
- Fall from height safety will be addressed by either a 1.2m landing, where there is room, or a balustrade where there is not.

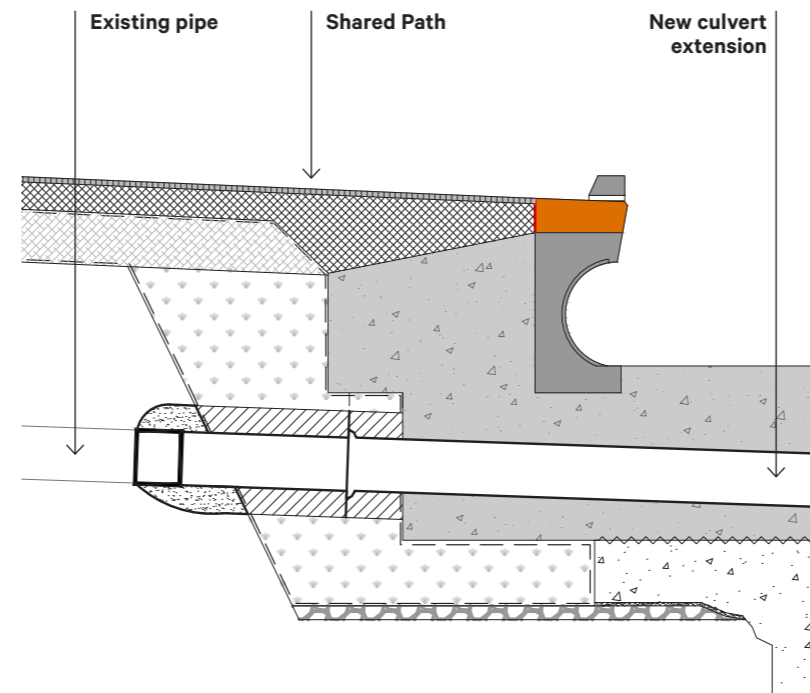


Figure 1.10 Single curved seawall (type C1L).

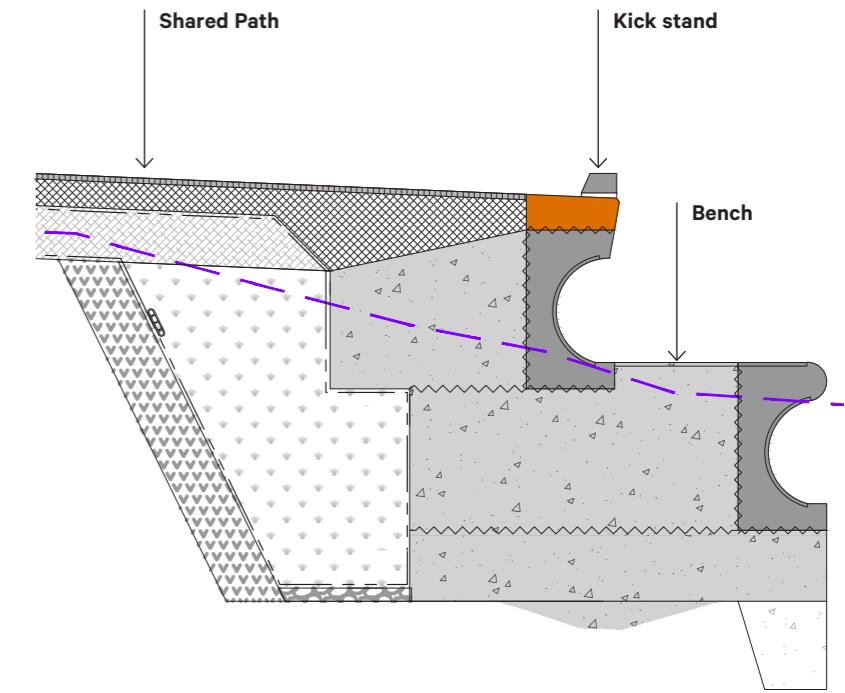


Figure 1.11 Double curved seawall with bench (type C2L).

Stormwater

LV 7. (d) Structures and coastal interface

Stormwater outlets will be in-situ sections between pre-cast wall units and are designed sympathetically to limit adverse effects on recreation. There is no change to the alignment of any stormwater drainage and no new stormwater drainage proposed. A scour assessment has been completed in accordance with U.S Department of Transportation. (2006). Hydraulic Engineering Circular No. 14, Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels.

Scour related to stormwater discharges from the culverts is likely to be negligible when compared to scour associated with coastal wave energy. As such, no outfall protection (or additional scour treatment) is required in respect of culverts in accordance with the scour assessment undertaken.

The seawalls are designed to accommodate for the potential beach scour up to the assessed design levels during storm events based on empirical methods which are discussed in the seawalls design report. Individual checks were also carried out at each culvert penetration at the seawall face to confirm that the maximum depth of scour generated from the discharge from culverts does not cause stability issues to the seawall given that the maximum scour depth is located away from the toe of the seawall. Both assessments have been communicated with HCC.

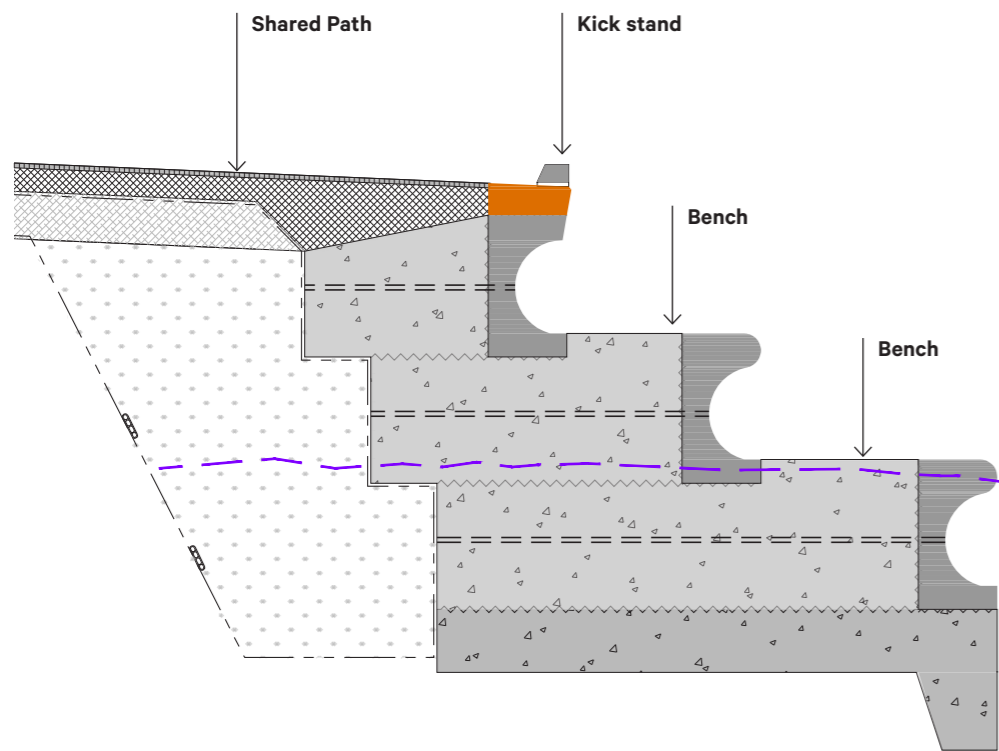


Figure 1.13 Triple curved seawall with bench and kickrail.

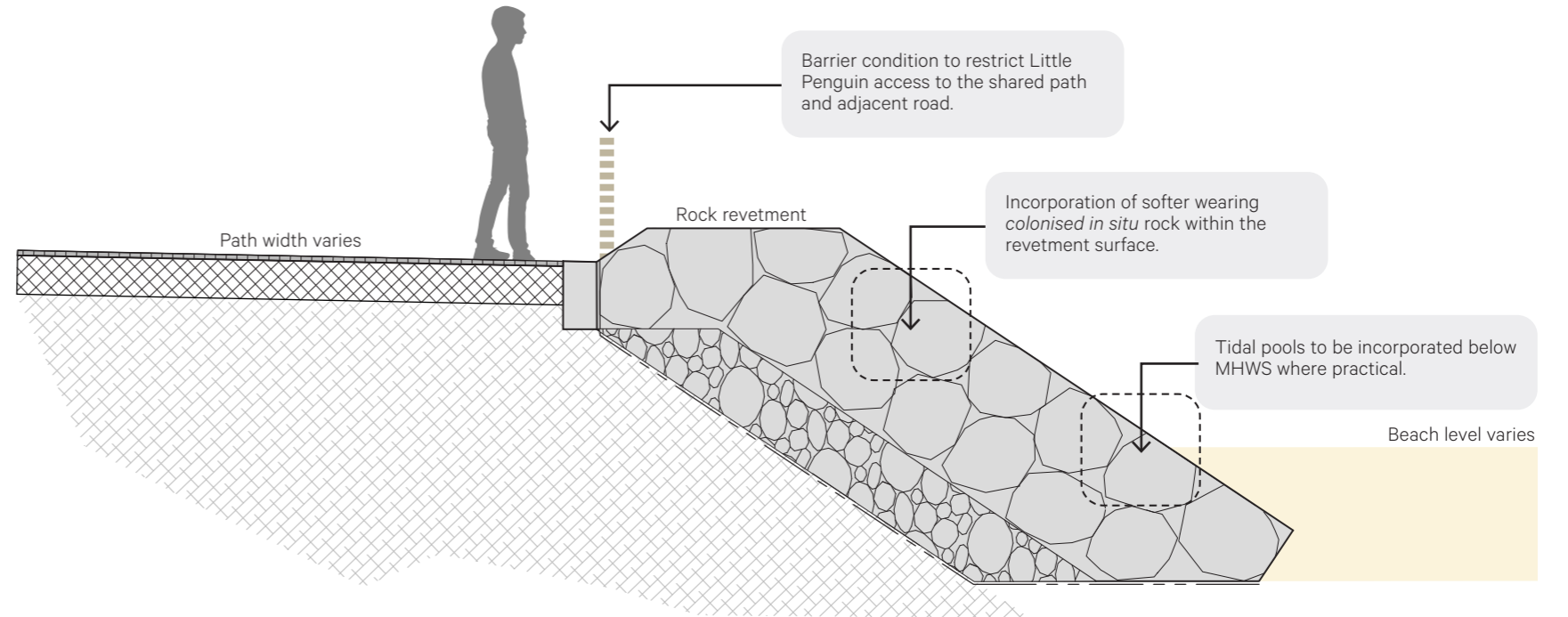


Figure 1.12 Typical rock revetment section.



Figure 1.14 Example of existing colonised in situ rock that could be suitable to reuse in the construction of the revetments and transitional areas (stantec).

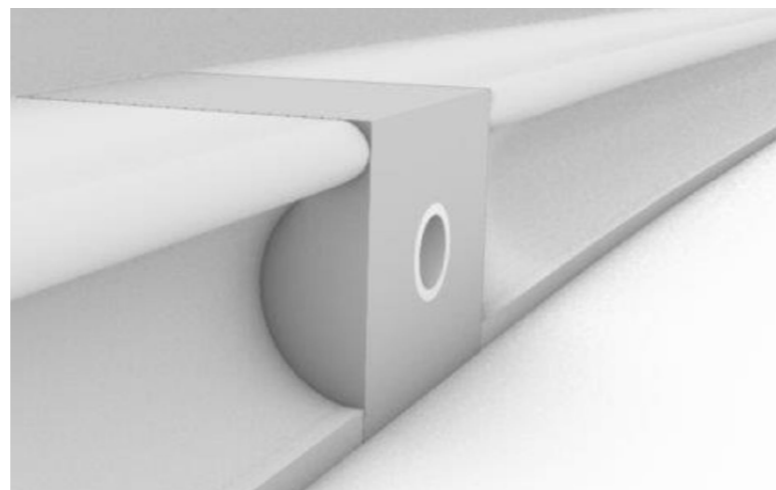


Figure 1.15 Indicative stormwater outfall penetration through seawall.

Priorities for Mahina Bay.

Beach Access & Safety Barriers

LV 7. (b)(c) - Steps, Ramps & Handrails

An important aspect of the Shared Path is that public access to the beach is maintained and, at certain places, enhanced. Two forms of access are provided to the coastal marine area in Mahina Bay, these include 'Mini Steps' and 'Ramps'.

Mini steps are proposed to achieve additional access to the beach without encroaching unnecessarily onto the coastal marine area. Ramps are proposed so as to minimise encroachment onto the beach. The ramp shown in Mahina Bay has a gradient of 1:14.

The design priorities relating to beach access are:

- Should draw people to the coastal edge, away from the main path.
- Should be inviting and intentionally separate to the main path.
- Fit for purpose, using materials suitable for the marine context.
- Safety in design, considering ease of use, surface texture/grip and handrails.
- Steps to be sited in logical, accessible locations with visual links to and from the shared path to enable their use.
- Design to reflect a distinctly Tupua Horo Nuku aesthetic, fitting in with their surroundings while providing opportunity for unique, place based expression.
- Parallel design to seawall/coastline to reduce footprint on the beach and interference with coastal processes.
- Sight lines shall be maintained and unobscured as per CPTED guidelines.
- Fall heights and barriers must comply with NZ Building Code D1 (Access Routes) and F4 (Safety from Falling).
- Provision for safe crossing places and desire lines shall be met as per the Pedestrian Planning and Design Guide (and the Pedestrian Network Guidance (Waka Kotahi, 2021) forthcoming).
- Consideration for the safety for sea birds and animals shall be informed by designed elements and interventions.
- Where stainless steel is used, some minor staining (tea bagging) is likely to occur.



Figure 1.16 Curved seawall with kickstand and bench indicative artistic impression.



Figure 1.17 Completed timber kickstand.



Figure 1.18 Completed balustrade at southern end of Mā-koromiko.

Ecology

LV 7. (e) - Little penguins, rock pools, barriers

An ecology assessment of intertidal benthic ecology was undertaken in 2016-2017 by EOS Ecology (McMurtrie & Brennan, 2019a). The assessment found that the existing intertidal environment is currently highly modified, with seawalls along the majority of the shoreline consisting primarily of angled concrete seawalls that support low species diversity and richness. Beach areas and fish passage issues have been summarized in the LUDP. Seabird protection is detailed in the Bird Protection Plan.

The main design aspects that will help to improve intertidal ecology and fish passage include:

- A texture applied to the curved seawalls (the curved vertical surface and horizontal flat steps or ‘goings’/risers and the vertical sides of access points (steps and ramps) to provide habitat for intertidal biota and splash zone coastal species. The textures are described and shown in the LUDP, the Seawall Revetment Habitat Plan (SRHP).
- Ecological enhancements, such as tide pools, Vertipools, and Small drilled rock pools are applied to discrete locations along the coastal edge that are within the intertidal zone.
- Re-use of colonised rocky material in front of the new curved seawalls to suit condition EM.19 (c) of the Seawall Revetment Habitat Plan.
- Providing for fish passage at stream culverts to ensure the current level of fish passage for fish species migrating into upstream freshwater habitats is maintained or improved.

For sea bird protection areas, the main outcomes are to:

- Use vegetation to provide cover for sea birds, particularly penguins.
- Use fencing to deter people and in pest prevention.
- Use interpretative wayfinding signage to support interactive methodologies to tell stories and raise awareness.

The number and locations of ecological enhancements may change post-construction based on suitable areas for placement to achieve the best ecological outcomes. The main ecological limitation for placement of ecological enhancements is that they need to be within the intertidal zone.



Figure 1.19 Photo of texture applied to curved seawalls vertical faces.



Figure 1.20 Indicative design of the 0.5m high Kororā / Little Penguin timber barrier.



Figure 1.22 Tide pools installed in rock revetment. Ref SHRP



Figure 1.21 Drilled Tide Pools. Ref, Aberystwyth University

Priorities for Mahina Bay.

Planting

LV 7. (f)(g) -Trees, planting, natural character

Planting

The planting design for the Mahina Bay gives consideration to the dynamic coastal environment, its ecology, the various user experiences along the route, and maintenance and operations factors. Plant species have been chosen from the Plant Palette in the LUDP, which has been developed with the Project Ecologists. This includes indigenous species, which are suited to this specific coastal environment, and will encourage species of birds, lizards and insects which currently (or could potentially) inhabit areas along the route.

Proposed planting is reflective of (and reinforces) the Mahina Bay context; planting provides a variety experiences, in response to the character, context, landscape and natural features along the route. Proposed plant species are:



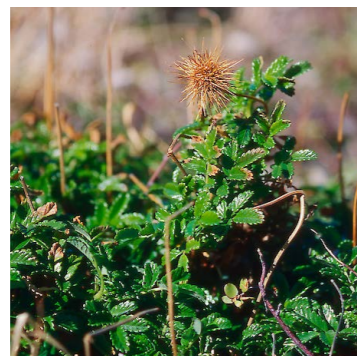
Waiuatua
Euphorbia glauca, shore spurge



Wīwī
Ficinia nodosa, knobby clubrush



Wī
Poa cita, silver tussock



Sand piripiri
Acaena pallida, sand bidibid

Natural Character

The overall adverse effects on natural character for Mahina Bay are considered to be less than minor for the coastal landscape. The landscape and urban design approach and principles have been developed to mitigate effects of the project on natural character.

As outlined in the LUDP, it is expected that the effects on natural character from the Project, including the seawall and shared path will lessen over time as they weather and become established.

A list of mitigation measures related to natural character attributes is provided below. Further detail of mitigation of effects on natural character and integration with the natural landscape is provided with the description of design areas and elements in the Urban Design Outcomes Section of the LUDP.

Legibility – geomorphology:

- Retention of local rock for reuse at base of the seawalls.

Legibility – wayfinding and orientation:

- Reinforcement of the undulating coastline morphology by positioning the shared path along the coastal edge.
- Opportunities for local variation/reinforcement of local identity in the form of access points from the path to the foreshore.
- Improved access to headlands with strong natural character and natural features (such as trees, rocky outcrops and rock stacks).
- Provision of wayfinding marker, street furniture and signage to reinforce the bays and associated neighbourhoods.
- Provisions for cultural expression and naming to reinforce sense of place.

Visibility – public and private views:

- Consistent detailing along the coastal edge and road edge to reduce the visual impact.
- Appropriate/considered design of urban design and landscape elements such as seating, bins, handrails, seaward side linear barriers, stormwater outlets, planting, signage and path markings to integrate them with the landscape setting.
- Incorporation of eco-mitigation surface textures consistently applied along the lower curve and ‘step’ of the wall to reduce the visual presence of the seawalls.
- Any safety balustrades to be designed as ‘transparent’ as possible to reduce visual appearance.

Picturesqueness:

- Path alignment responds to the local landform and land use patterns.
- Sensitive detailing of urban design and landscape elements, that respond to Mana Whenua, community identity and sense of place.
- Removal of existing unsightly structures and infrastructure along the project site and the replacement of an eroding road with a consistent structurally stable edge.

Urban Design

LV 7. (h)(i)(j)(k) - Openspaces, features and signage

The Design Features Report (DFR) (Stantec, 2019) established a set of design principles and outlined the engineering requirements for the project. This BSUDP has been developed in general accordance with these principles and requirements. The LUDP outlines the overarching principles, palettes, and narratives for detailed design. Principles for Mahina Bay can be summarized as:

- Reflective of rugged coastal environment – materiality, robustness.
- Less is more – emphasise the natural setting and views.
- Maintain integrity of natural rock outcrops.
- Retain and enhance coastal vegetation where possible along coastal edge.
- Consistency across elements – a coordinated suite.
- Simple robust forms.
- Simple colour, surface texture, bespoke signage palettes.
- Maintenance considerations.
- Bay specific narratives expressed through cultural design.
- Sympathetic materials palette.

Openspace and Recreational Amenity

Tupua Horo Nuku provides a connection to a continuous coastal edge experience along Mahina Bay. The Project will enhance existing levels of recreation and amenity values by way of the shared path improving access for people walking and cycling along the coast and between bays. This enhanced access includes new beach access points providing access to the foreshore. The main priorities identified are:

- Creating a fit for purpose shared path that provides access to the coast and to the bays between Point Howard and Eastbourne for people walking and cycling.
- Provide access to the beach, water and headlands.
- Provide stopping and resting places.
- Maintain views to the coast.
- Retain fishing access.

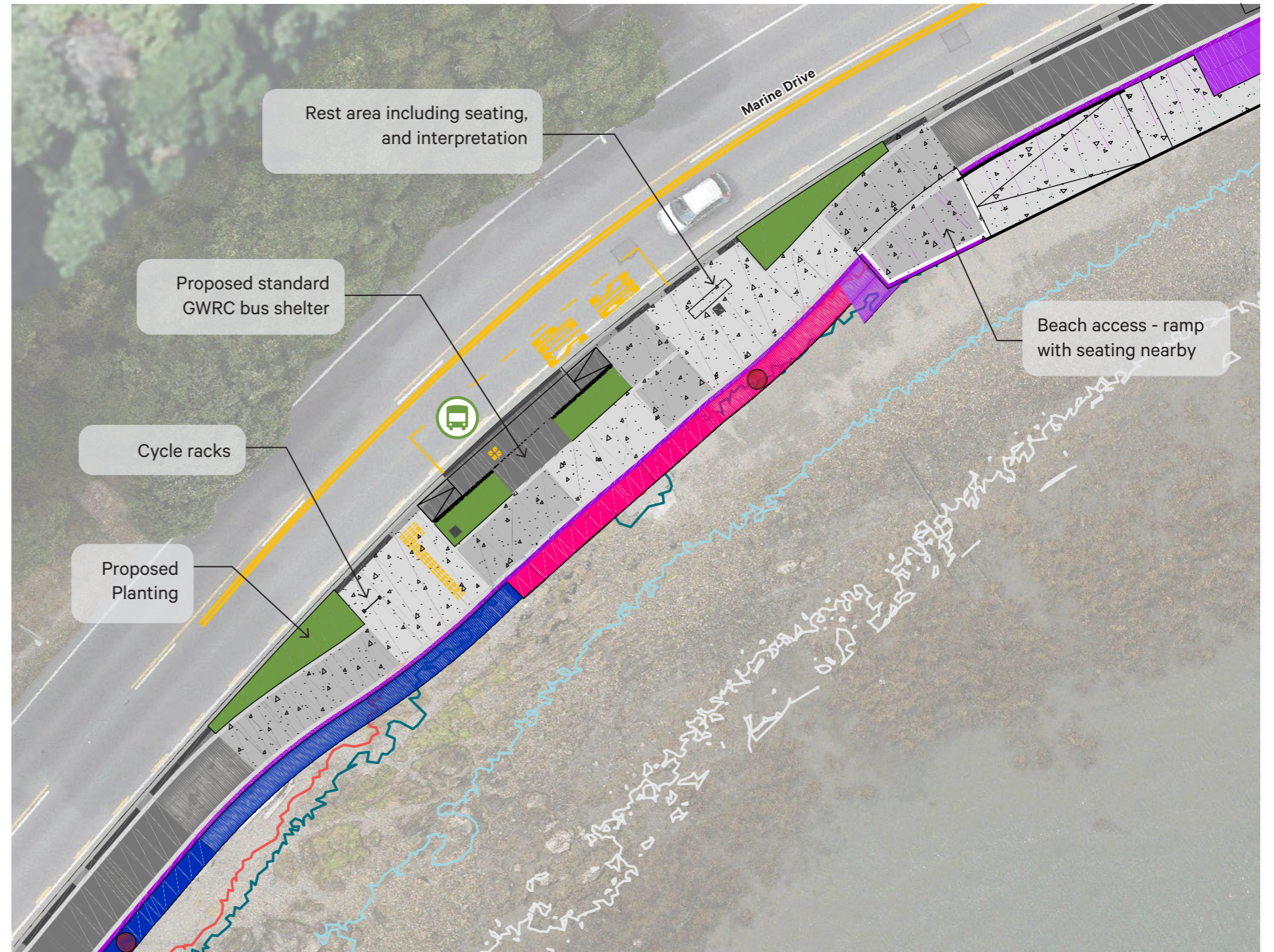


Figure 1.24 Proposed openspace arrangement at Mahina Bay bus stop.

Priorities for Mahina Bay.

Urban Design (continued)

LV 7. (h)(i)(j)(k) - Openspaces, features and signage

Furniture and Features

The furniture palette for Mahina Bay consists of interpretation signage and wayfinding, seating, bike racks and bins. The palette is to reflect the coastal setting of Tupua Horo Nuku and provide opportunities for cultural expression and narrative to some elements.

The design outcomes relating to furniture are:

- Use of standard HCC design elements where practical.
- A cohesive suite across multiple elements using robust materials suitable to the coastal environment.
- Appropriate in scale and number, avoiding visual clutter so as not to detract from their environment.
- Contribute positively to the character of Tupua Horo Nuku.
- Allow for opportunities to incorporate individual bay identities.

Formal seating is generally provided at places where stopping and gathering is encouraged and there is sufficient space. The proposed seats are made of timber which is a hardwearing material suitable for the coastal environment. There is a mixture of seating options including benches and seats with back rests and arms. The design is robust, with preference given to solid, chunky forms that are more in keeping with the coastal environment.

Bike racks are generally co-located with complimentary furniture and near bus stops and stopping location. A standard simple design with a narrow profile is proposed to reduce footprint. They have been located appropriately to assist safe and easy movement along the path.

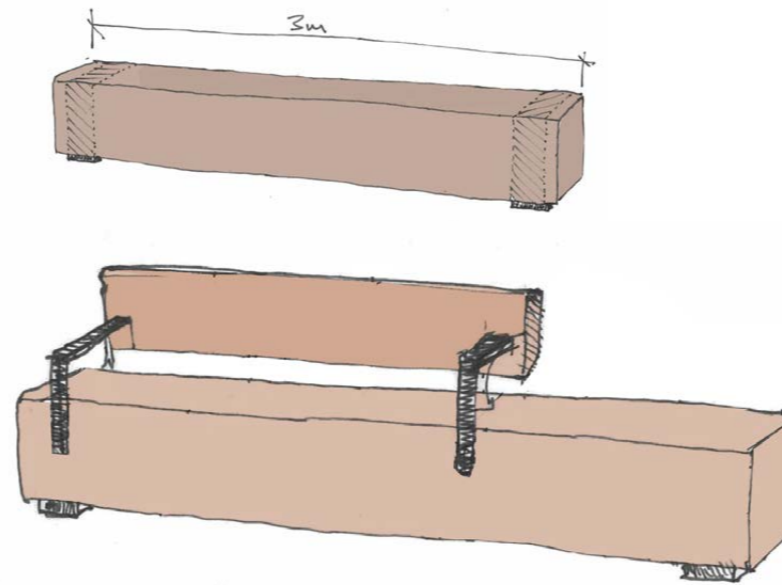


Figure 1.28 Indicative seating design.

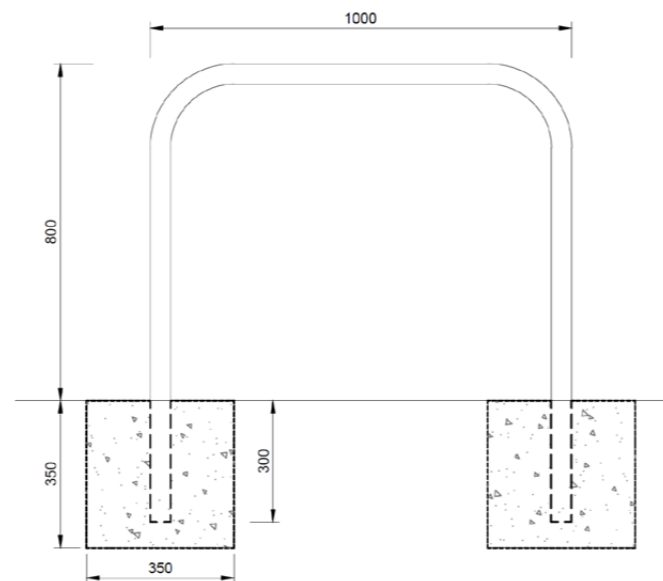


Figure 1.29 Typical cast in bike rack.

Urban Design (continued)

LV 7. (h)(i)(j)(k) - Openspaces, features and signage

Signage and wayfinding

Where width allows, gathering spaces, beach access points and bus stops are appropriately separated from paths, to allow for slower and safer movement. Linemarking, symbols, and directional arrows are also considered at the approaches (thresholds) and alongside bus stops and beach access points to visually separate fast and slow movement to minimise conflict. These have been jointly expressed through cultural expression and symbols. Signage for stopping places and kickrails will have a bilingual approach.

Traffic signage and markings will form part of the detailed design stage. The position of such signage should ensure minimal visual clutter and follow a clear design logic to the positioning, combining and layout of signs.

The design priorities relating to Signage & Wayfinding are:

- Give consideration to HCC cycleways and Transport Agency standards and Great Harbour Way precedents.
- Ensure CPTED concerns inform the wayfinding design approach.
- Create a visual language for the Tupua Horo Nuku which suits the needs of the project and is in line with HCC standards.
- Clearly communicate and link key destinations and named landmarks and assist in legibility of the proposed path.
- Ensure the level, format and intensity of wayfinding signage varies along the path, according to need.
- Create a coherent graphic language using robust materials suited to the coastal environment.

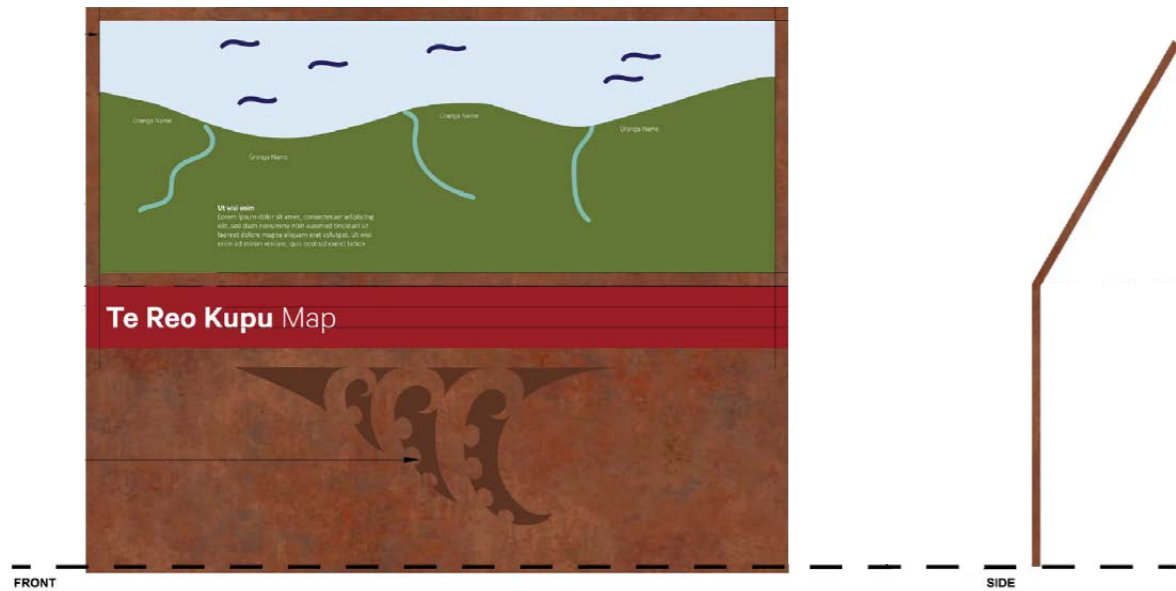


Figure 1.30 Signage design for stopping places (example only).

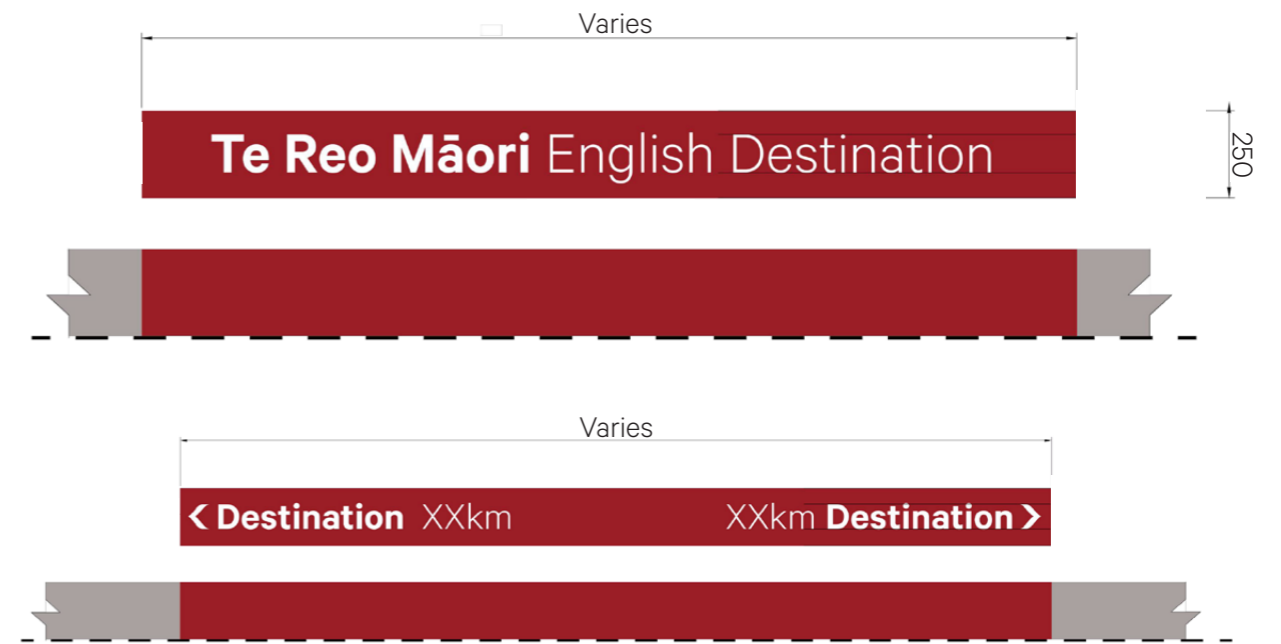


Figure 1.32 Steel panel with named location applied to kickrail (example only).



Figure 1.31 Signage design for habitat areas (example only).

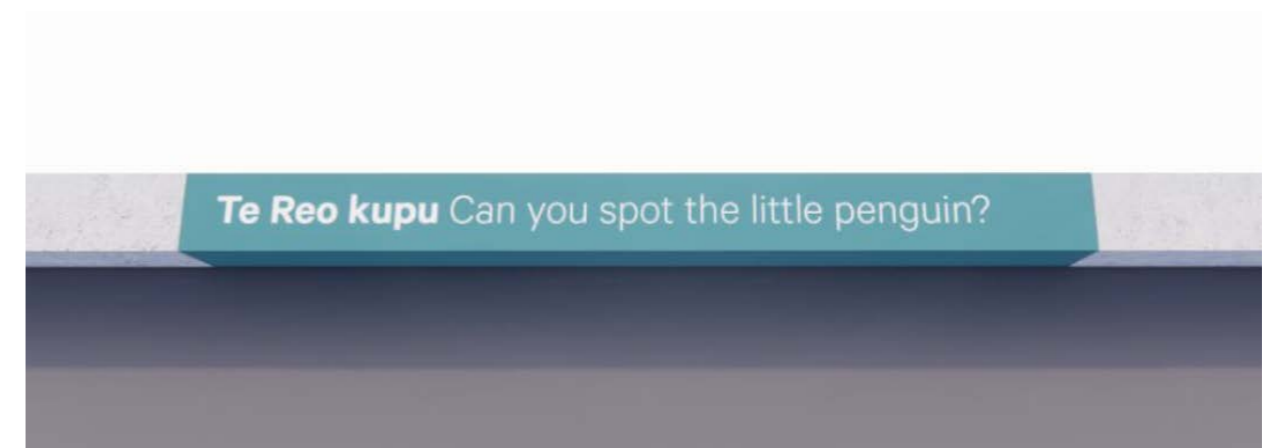


Figure 1.33 Interpretative panel applied to kickrail (example only).

Priorities for Mahina Bay.

Cultural Landscape

LV 7. (I)(m) - Storyboards and surface treatments

Celebration and interpretation of the cultural landscape is integral to the Project vision, design principles and design themes. The Cultural Narrative and Overlay for Tupua Horo Nuku sets out the principles and design response that will guide the cultural expression and create a foundation for the Project in partnership with Taranaki Whānui and Ngāti Toa and key project groups.

The Cultural Narrative and Overlay for the Project will be reflected in all parts of the urban and landscape design process, from the overall form of the footprint, through a focus on kaitiakitanga and in the design of the seawall and other structures. This can also be realised through materials used, naming conventions, arrangement of gathering spaces, treatment of the stream crossings, signage, lighting, sculptural elements and artwork along with the consideration of options for future events, recreation and education activities.

The following imagery illustrates specific Cultural Expression design elements by Len Hetet. These elements complement and form part of the integrated approach to cultural expression as set out in the vision for the Project and outcomes for all of the components; from the underlying form to specific details.

Patterns:

Te Āti Awa tupua rau, he auripo i te manga iti, he auripo i te manga nui raanei, he kaitiaki ki te whenua.

Te Āti Awa of many phenomena's, where there is a ripple in a small tributary or great river, there is a guardian and protector on the land.

- This speaks to the connection between the tidal movements and the creation of the eastern bays land mass by Tupua Horo Nuku – Ngake.

Mouri Marker:

- The Mouri Marker represents an area of significance to Mana Whenua. It will highlight the Maori and English names of the bays and allow for our cultural narratives of those bays to be told.

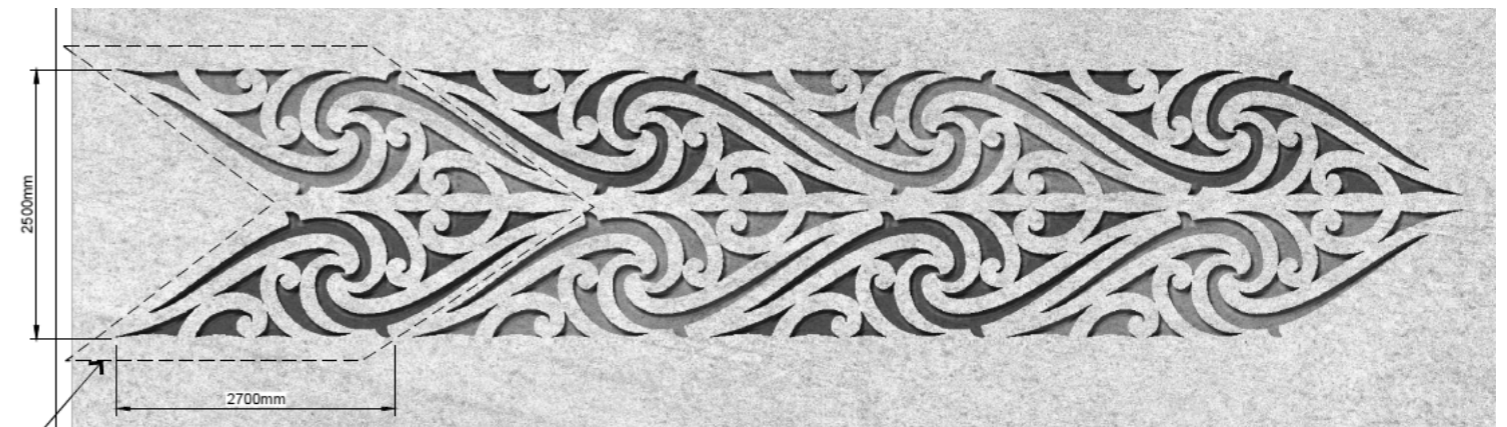


Figure 1.34 Indicative set out of cultural pattern to the path.



Figure 1.35 Mouri Marker post in timber, indicative sketch (artist supplied).



Figure 1.36 Indicative application of cultural pattern to the path.

Other Matters

LV 7. (o) - Bus Stops & Shelters

As per the conditions bus shelters shall enhance safety and convenience, and minimises risk, for all users of the Shared Pathway and the road. Bus stops/ Shelters requiring replacement will, to the greatest extent practicable, be designed taking into account the following design principles:

- (a) A preference that the shared path run behind the bus stop/ shelter;
- (b) The bus stop / shelter will be raised (separated with a kerb from the traffic lane where possible);
- (c) The bus stop / shelter will be designed in accordance with universal accessibility principles (such as, but not limited to, wheelchair friendly ramps and tactile pavers); and
- (d) Bus stop / shelter design will be fit for purpose to appropriately protect public transport users from the coastal elements.

The Alliance is proposing to replace the existing bus stop shelter near the intersection of Marine Drive and Mahina Road with a standard GWRC shelter. The benefits of replacing this shelter are:

- Create an accessible bus stop for those less mobile.
- Improve safety by having glass shelters that allow better visibility for path users.
- Providing a raised kerb/access point for bus shelters means better safety for those boarding the bus.

We will attempt to retain some of the existing bus stop 'look and feel' by screen-printing art work inspired by that on the existing bus stop onto the new shelters. We cannot use the existing bus shelter when creating accessible bus stops due to the depth of the shelter. Using the existing shelter would encroach on the shared path and also on the coastal marine area.

The design outcomes relating to bus shelters are:

- Fit for purpose, providing best possible shelter from wind, rain and seawater ingress during storm events.
- Bus stop location needs to be safe & convenient for users.
- Bus shelters and entrance point onto the bus should be accessible for wheelchairs.
- Bus shelters should be designed so there is enough space for wheelchairs to get under shelter.
- Design to reflect a distinctly Tupua Horo Nuku aesthetic, fitting in with their surroundings while providing opportunity for unique, place based expression.
- Investigate coastal plantings next to bus stops to soften hardscape through the bay specific plans.
- A standard bus shelter is preferred by GWRC. These shelters were chosen as the design aligns well with the landscape and urban design principles with the potential for modifications:
 - Incorporate timber slats with a panel that can be painted and/or used as a community noticeboard.
 - Painting of the roof fascia in a colour that matches the other urban design elements.
 - Apply cultural expression onto glass or other materials.
 - Potential to involve local schools in art creations.
 - Modification to entrance point to avoid prevailing wind and splashback from passing vehicles when wet.



Figure 1.37 Example of a standard bus shelter preferred by GWRC.



Figure 1.38 The existing bus stop in Mahina Bay.

Ngā mihi nui.

