

Waterfront Swimming & Jumping Opportunities. Preliminary Investigation Report.

Attachment B

29 September
2022

Isthmus.





Document record.

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2. Waterfront Swimming Opportunities.
Eke Panuku.
29 September 2022.

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Project Overview.

Purpose and Process.

Introduction.

This report explores swimming and jumping opportunities along the Tāmaki Makaurau downtown water-edge, between Harbour Bridge Park through to Queens Wharf (waterfront areas under Eke Panuku management).

Enabling public access to the Waitematā is a key objective of the Waterfront Goals and City Centre Master Plan.

This study takes into consideration the need to balance public access to water-space and water-edge use with other existing activities, such as maritime transportation, fishing and working boats, marina berths or public events.

Strategic Alignment.

The Waterfront Swimming and Jumping project is aligned with strategic outcomes identified in the following documents:

- Auckland Plan 2050
- Auckland Water Strategy (2022)
- Te Ara Tukutuku Plan (2021)
- Transform Waterfront (2020), including the mana whenua gifted goals (2021) and the Waterfront Vision:

“A world-class destination that excites the senses and celebrates our sea-loving Māori culture and maritime history. It supports commercially successful and innovative businesses, and is a place for all people, an area rich in character and activities that link people to the city and the sea.”

Project Brief.

The project is to provide further understanding of:

- Existing Conditions: water quality; safety hazards; swim conditions; water depth, structures on the land and water; property ownership and urban conditions (access, facilities, activities).
- Swim & Water Recreation Aspirations: re-engaging Aucklanders with the waterfront; water quality improvement opportunities; what is already occurring formally & informally; new compatible swim/water recreation activities; and identifying locations where swim and water recreation can occur.
- Risk Mitigation & Management: Ensuring safe swim opportunities can be considered alongside potential risks and hazards.

The project will look at locations along the waterfront for swimming

and water recreation. It also includes a special focus on Karanga Plaza.

This was requested by the Eke Panuku Board, as this existing swim location has identified health and safety concerns that need to be addressed for the 2022/2023 summer.

It is also understood this work will feed into subsequent internal Eke Panuku reporting processes that will refine the findings set out in this report further (i.e. further short-listing and Papers to the Eke Panuku Board).

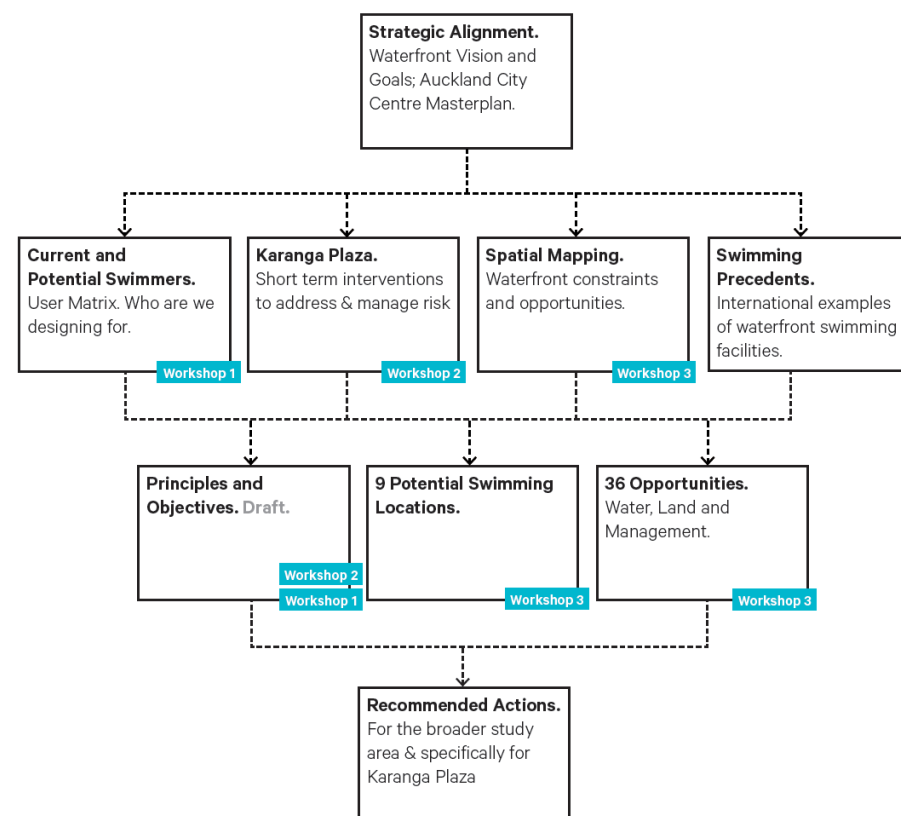
Process.

The project occurred over July and August 2022, with workshops and key project tasks communicated in the adjacent diagram.

Engagement with stakeholders was a central component of this project: gathering the wide range of perspectives and ensuring potential swimming locations' advantages and disadvantages were captured holistically.

As a result, the project was organised around workshops, with attendees representing Mana Whenua, Eke Panuku (waterfront operations, the marina team, events, design & planning), Healthy Waters (water

Project Methodology



quality and testing), the Harbour Master, Drowning Prevention, Safe Swim NZ, Resolve Group (safety consultants) and Isthmus (design consultants).

Workshop attendees were able to input with their own knowledge and recommendations to shape the comparison of potential swimming locations, draft principles and objectives, and waterfront opportunities.

Workshop Dates & Purpose

Workshop 1: July 14th. Swimming and Jumping High-level Implications and Opportunities.

Workshop 2: July 27th. Karanga Plaza Risks and Controls.

Workshop 3: August 11th. Draft Long List Swimming and Jumping Locations.

Mana Whenua Hui: August 17th. Draft Long List Swimming and Jumping Locations.

Workshop 4: August 26th. Long List Risk Workshop.

Workshop Participants.

Across our workshops were the following participants:

Jacob Marshall, Eke Panuku
Bridget Law, Eke Panuku
Fiona Knox, Eke Panuku
Frith Walker, Eke Panuku

Jayson Maud, Eke Panuku
Anna Horrocks, Eke Panuku
Erica Su, Eke Panuku
Ruth Jost, Eke Panuku
Richard Ward, Eke Panuku
Paul Brown, Eke Panuku
John Smith, Eke Panuku
Duncan Ecob, Eke Panuku
Dave Middleton, Eke Panuku
Sarah Briggs, Eke Panuku
Mervyn Kerehoma, Ngati Whatua o Orakei
Paora Puru, Ngati te Ata
Delma O'Kane, Ngati Manuhuri
John Matla, Viaduct Marina
Martin Neale, Safe Swim NZ
Teresa Stanley, Drowning Prevention
Christian Moss, Auckland Transport
Andrew Hayton, Auckland Transport
Tim Crow, Resolve Group
Tim Christensen, Resolve Group

Te mauri o te Waitematā.

Throughout the process, concerns about poor water quality have been consistently raised during workshops.

This concern has related to current swimming activities, increasing swimming opportunities in the future and with regard to biodiversity & marine health.

The latter has been reinforced by Mana Whenua in terms of poor water quality having an impact on taonga species that call te Waitematā home.

The mauri of the Waitematā needs to be restored. Water quality needs to be healthy.

Mana whenua expressed this in the following way:

"Water is us, we are the water, we co-exist with species/taonga that live in the water".

As a result, the project should address water pollution and contaminants from stormwater outlets, land run-off, chemicals and pollutants present in the Wynyard area due to its historical industrial uses as a top priority to enable safe swimming and jumping.

Further research and data capture are necessary to form a holistic and accurate picture of the extent of current water quality along the city centre waterfront. From here an action plan should be created to effectively address issues to improve water quality.

Whilst these suggestions were not the specific purpose of this project, improving water quality is paramount to ensure people can safely enjoy engaging with the water. They form part of the suite of identified next steps.

Draft Principles and Objectives.

Work-in Progress.

Four draft principles were identified in the early stages of the project, following workshop discussion with Mana Whenua and key stakeholders. They recognise and are in alignment with the Waterfront Goals.

The intent of these draft principles is to guide and inform Swimming Opportunities and the comparative assessment of potential swimming locations along the waterfront.

The development of these draft principles will require further engagement with Mana Whenua and key stakeholders to ensure all views are captured and align to a shared vision. It is envisaged they will be subsequently re-worded to be more directive.

The four draft principles are introduced here at a high level to illustrate the key topics discussed throughout the project development.

They are in an early draft form and not refined enough to act as criteria for the comparative assessment of swimming locations at this point in time. It is recommended that all draft principles have more specific engagement with Mana Whenua through Eke Panuku's Kaitiaki and Governance Workshops.

Draft Principle 1: Mana Whenua

- Customary practices
- Mātauranga Māori

We have heard briefly about the spiritual connection of Mana Whenua with the Waitematā/ their tupuna. Re-engaging with the water can offer Mana Whenua and rangitahi enhanced emotional well-being through increased physical connection with ancestors and the ability to carry out a broader range of customary practices.

Alignment with Waterfront Goals:

- Blue-green waterfront / Ki Tātahi
- Liveable waterfront / Kia tau te maura mō te ira tangata ki te ao tūroa
- Public waterfront / Tauranga Tāngata

Draft Principle 2: Environment & Mauri

- Water Quality
- Education
- Marine wildlife
- Low impact design

Encouraging swimming, jumping and engaging with the water at the waterfront relies on a re-creating a healthy and respectful relationship between people and the Waitematā, and uplifting the mauri of the moana.

Alignment with Waterfront Goals:

- Blue-green waterfront / Ki Tātahi
- Public waterfront / Tauranga Tāngata

Draft Principle 3: People & Vibrancy

- Manaakitanga
- Amenity and occupation
- Events
- Free access and commercial activities

Reconnecting people to the Waitematā in a way that is generous, inclusive and welcoming is a key aspiration for the future of the waterfront.

Alignment with Waterfront Goals:

- Liveable waterfront / Kia tau te maura mō te ira tangata ki te ao tūroa
- Public waterfront / Tauranga Tāngata
- Connected waterfront / Hononga tāngata

Draft Principle 4: Health and Safety

- Kaitiakitanga
- Safe practices
- Control and management measures

Re-engaging people with the Waitematā must also be safe.

Alignment with Waterfront Goals:

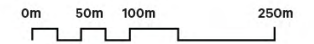
- Smart working waterfront / Tūāhōanga ahu mahi
- Blue-green waterfront / Ki Tātahi
- Connected waterfront / Hononga tāngata



2. Potential Swimming Locations.

The Waterfront.

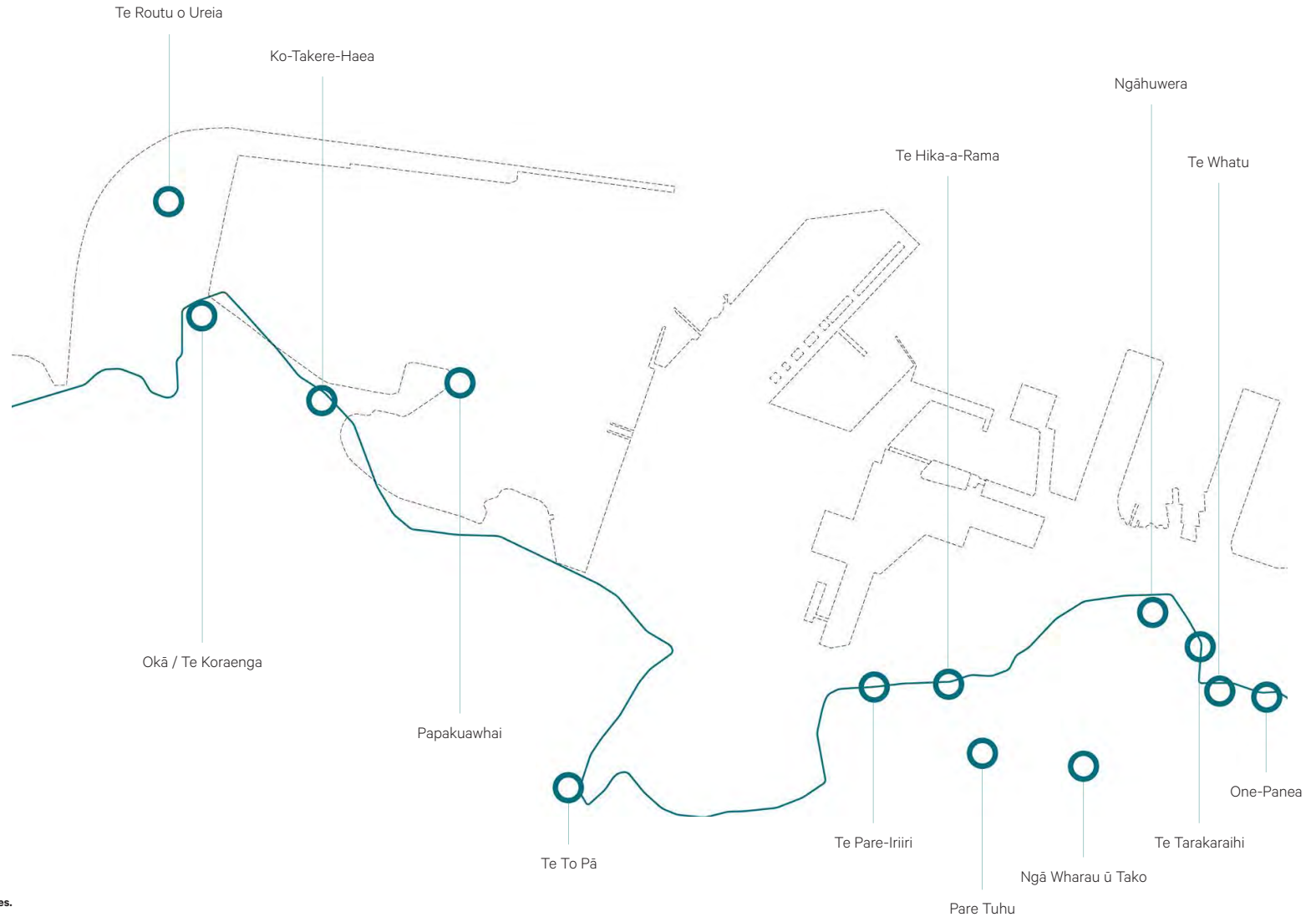
Existing uses and transport routes.



Waterfront Swimming Opportunities.
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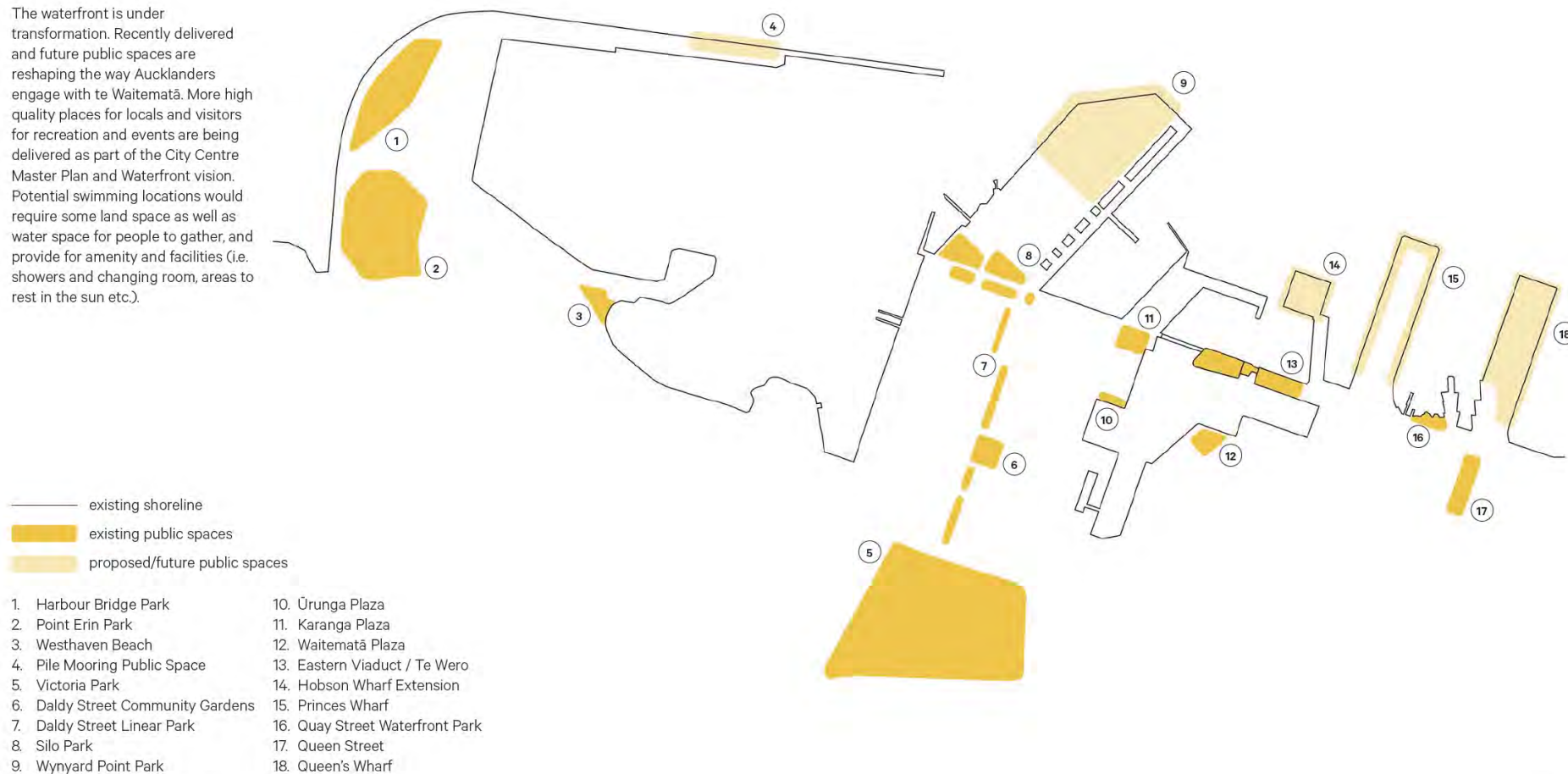
The Waterfront. Cultural Heritage.

Auckland waterfront is a highly modified landscape. The original coastline roughly aligned with current Fanshawe St—far from the waterfront we know today. As such, we are investigating opportunities to engage with te Waitematā from artificial edges, structures and reclaimed land. We acknowledge this condition and the impact it has on the mauri of the moana and the living species that inhabit these waters.



The Waterfront. Public Spaces.

The waterfront is under transformation. Recently delivered and future public spaces are reshaping the way Aucklanders engage with te Waitematā. More high quality places for locals and visitors for recreation and events are being delivered as part of the City Centre Master Plan and Waterfront vision. Potential swimming locations would require some land space as well as water space for people to gather, and provide for amenity and facilities (i.e. showers and changing room, areas to rest in the sun etc.).



The Waterfront. Walking and Cycling Routes.

Ensuring that identified swimming locations are connected to high quality pedestrian and cycle routes is a key priority. This will encourage as many users as possible to come for a swim using active transportation, increase the number of passers-by (thus "eyes on the water"), and make it easier for people to simply become aware that swimming is possible and catered for in these specific locations.

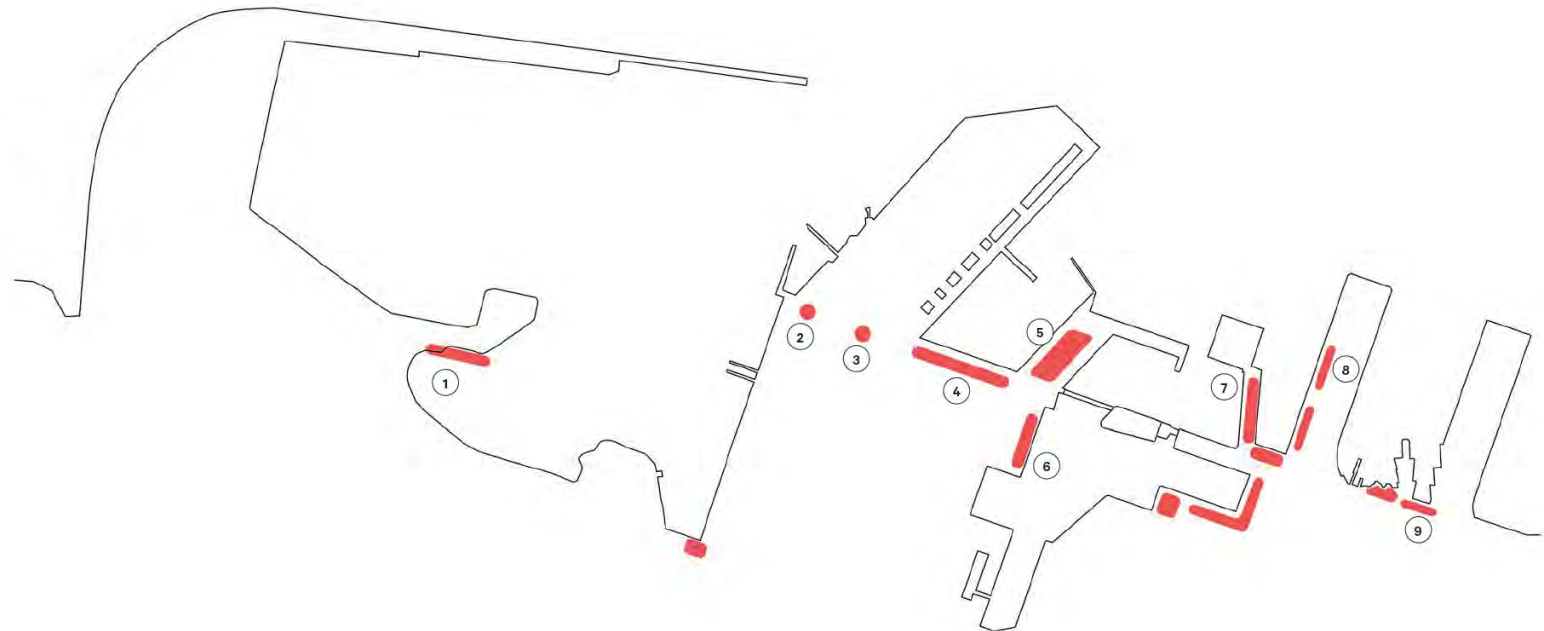


- existing shoreline
- main cycle/pedestrian routes
- pedestrian access to water's edge

- 1. Westhaven Marina Promenade
- 2. Waterfront Access
- 3. Daldy Street Linear Park
- 4. Viaduct Basin Promenade

The Waterfront. Leisure and Recreational Activities.

Swimming activities have the potential to attract a wide range of users at different times of the day and week. They can complement land-based recreational experiences the waterfront already offers - the multitude of play areas, event spaces, and food and beverage premises. Combining swimming opportunities with existing activities also ensures better passive surveillance over the water, as other users would come to the same area for other purposes.



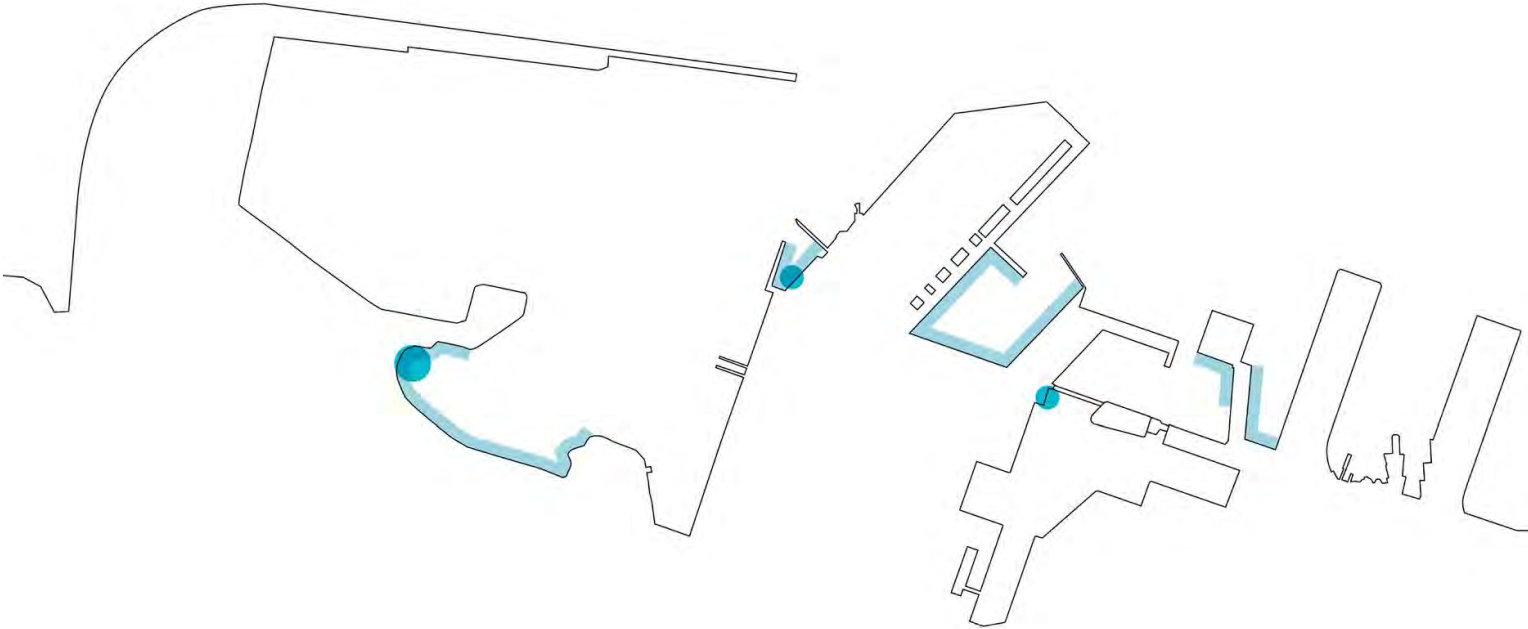
— existing shoreline
 leisure/recreation locations

- | | |
|--------------------------|--------------------|
| 1. Water Recreation Hire | 6. Park Hyatt |
| 2. Silo Park Event Space | 7. Maritime Museum |
| 3. Silo Park Play Area | 8. Princes Wharf |
| 4. North Wharf | 9. Ferry Terminal |
| 5. Viaduct Events Centre | |

Waterfront Swimming Opportunities.
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The Waterfront. Physical Water Access.

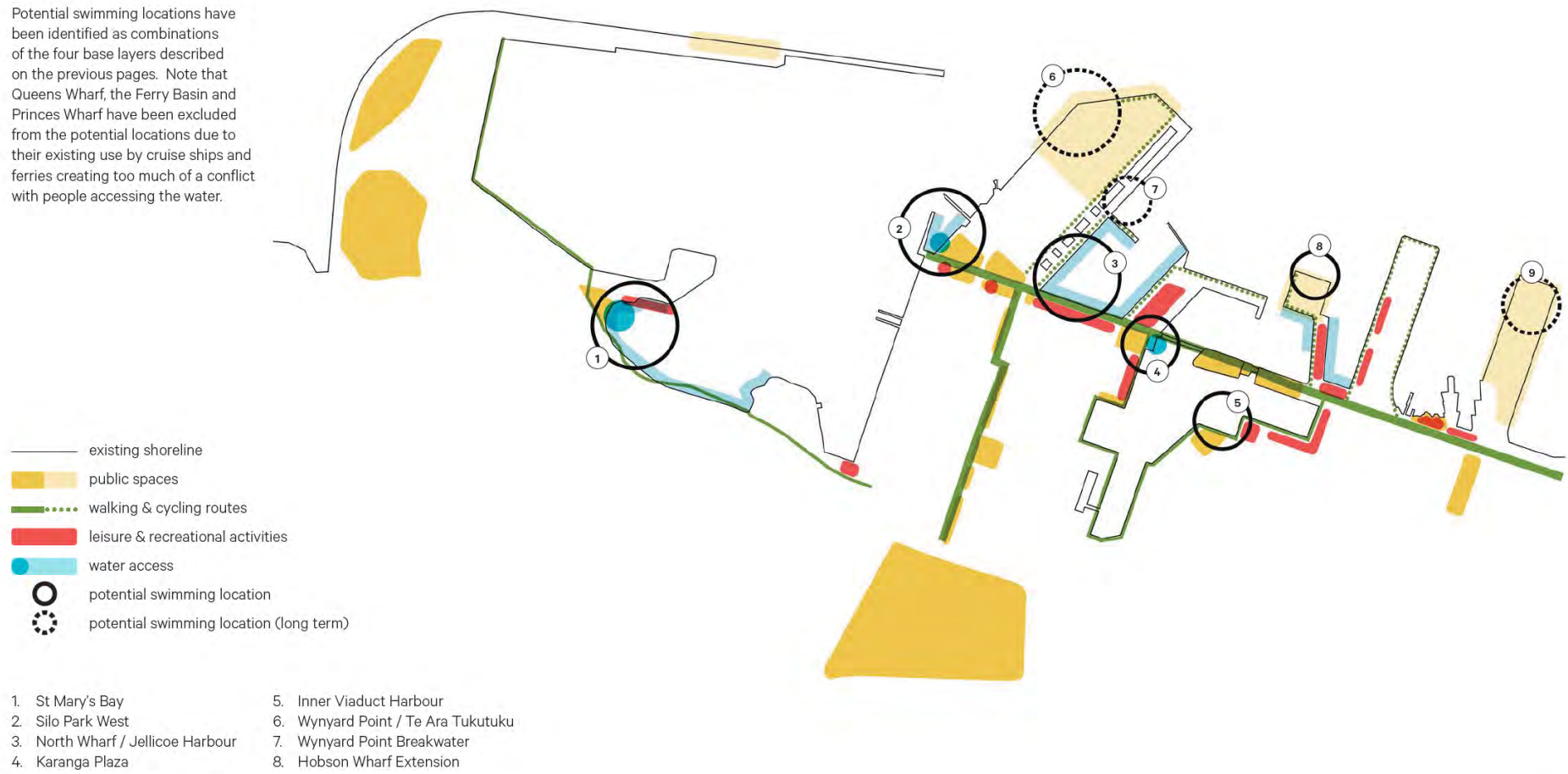
Access to the water's edge is competitive—it needs to balance the demands between different uses that contribute towards the vibrancy of Tāmaki Makaurau. Cruise ships, ferries, white boats and fishing boats all currently benefit from a direct berthing in the city, with marina space and working edges catering for different vessels. Inviting people into this busy water space presents some challenges to address safety risks. Public access physically into water space is currently limited to three areas (St Mary's Bay, Silo Park Steps and Karanga Plaza). Other areas have been identified as part of Eke Panuku's waterfront strategy to provide public access to the water, although this would also include access for vessels such as waka and dragon-boats, or water-based events.



- existing shoreline
- existing swimming location
- public access to water (identified in Eke Panuku Waterfront Strategy)

Potential Swimming locations.

Potential swimming locations have been identified as combinations of the four base layers described on the previous pages. Note that Queens Wharf, the Ferry Basin and Princes Wharf have been excluded from the potential locations due to their existing use by cruise ships and ferries creating too much of a conflict with people accessing the water.



St Mary's Bay. Location 1.

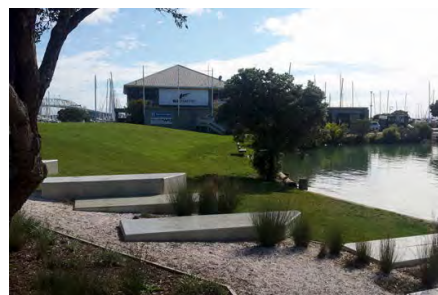
An existing swimming site that has family appeal and is dog-friendly. A re-created natural beach setting which has calm water and provides a easy launching area for small vessels and swimmers.

At low-tide, St Mary's Bay does have a shell and mud surface. Audible motorway noise is a drawback for this location as a recreation spot.

Below is a description of the site advantages and disadvantages for swimming.

Site Advantages	Site Disadvantages
Sandy, natural edge is desirable for less confident swimmers and water sports/all ages	Location is further out from the city centre/downtown - less visibility
Connected to public carpark as well as Westhaven Promenade	Experiences loud motorway noise
Existing toilets on site	Limited depth for jumping
Grassed area is good for picnics and beach is dog-friendly	Water is very shallow at low tide
Existing Swim Safe digital sign	Shell and rocky surface at low tide
Sheltered bay with limited tidal current or wind impact	Wastewater overflows into this site still exist (despite recent upgrades)
Limited interaction with vessels. Well suited to swimmers or vulnerable water users	Known use of chemicals in garden maintenance around this area likely to be run-off into water (this is not the case in Wynyard Quarter due to different management/maintenance arrangements) Motorway run-off into St Mary's Bay is likely and a source of water pollution

Left: St Mary's Bay green space seating



Right: St Mary's Bay activated by small vessel sailing and kayaks



St Mary's Bay. Aerial.



Site / Amenity Features

①	St Marys Green Space
⊙	Current Swim Location
P	Public Parking
⊙	Ko-Takere-Haea
—	Waterfront Cycleway / Shared Path
TTT	Motorway Barrier

High Risk Zones

⚠	Westhaven Marina Vehicle Access
⚠	Tidal Zone
⚠	Westhaven Marina Boat Transitting Area

Water Quality

1	2	3	4	5	6	7	8	9
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— For the America cup testing was completed at 9 different sites on 9 different weeks between 18/12/2020 and 15/03/2021. For this location, the results are shown above. Green was an acceptable reading, Yellow above alert threshold where vigilance is needed, Orange is unacceptable and Grey is no test taken.

WT America's Cup water testing site

Silo Park Edge. Location 2.

An existing accessible water-edge site through stepped edges. However the current steps are not inviting for swimmers.

The site has close proximity to existing boat berths and this proximity is more acute at low-tide.

Based on the current arrangement, this would be an issue for placing swimmers close to moving vessels.

Below is a description of the site advantages and disadvantages for swimming.

Site Advantages	Site Disadvantages
Well-activated as adjacent to public space and silos with nearby playground and informal splash play	Limited water depth for bombing
Better water quality due better tidal flushing	Likely to experience noise and frequent boat movement nearby due to ferry services
Enclosed space due to public pontoon and harbour bridge facing lookout platform	Potential for conflict with private berths/moorings
Easier gradient to access water	Further away from city centre/downtown
Close to public carparking, bus stops	Less adjacent existing activities/footfall to co-locate with (although this will change with future Te Ara Tukutuku redevelopment)
Will have relationship to future Te Ara Tukutuku redevelopment	WW2 fuel dump site nearby / Recent departure of fuel company
	Classic yachts going in and out, no separation with swimmers
	Stepped nature of water entry is different to Karanga Steps design
	Less foot traffic (than Karanga Plaza), with less opportunity for passive surveillance

Top Left: Looking back towards silos
Bottom Left: Steep drop to slippery low shelf (exposed at low-tide)



Top Right: Precast steps on access to water Silo Park edge
Bottom Right: Silo Park western edge



Silo Park Edge. Aerial.



Site / Amenity Features	
①	Silo Park Open Space
🚻	Public Bathrooms
🚢	Car Ferry Terminal
P	Public Parking
—	Waterfront Cycleway / Shared Path

High Risk Zones	
⚠️	Wynyard Wharf Vehicle Access
⚠️	Tidal Zone (high slip and laceration risk)
⚠️	High Angle Rock Edge / Hidden Shelf
⚠️	Westhaven Marina Boat Transiting Area

Water Quality								
1	2	3	4	5	6	7	8	9

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WT America's Cup water testing site



North Wharf/Jellicoe. Location 3.

A sheltered inner-harbour location with adjacency to North Wharf. It has a northern aspect and is well-overlooked by foot-traffic and hospitality uses along North Wharf. This location has no permanent berths and is used as water event space. At low-tide there is a large/

visible vertical difference between the wharf and water surface.

Below is a description of the site advantages and disadvantages for swimming.

Site Advantages	Site Disadvantages
Plenty of potential due to size of harbour	Shallow depth to western edge of Jellicoe Harbour
Eke Panuku holds leases for berths, so control over boat movement is more easily managed	Narrow pedestrian promenade space for landward movement and gathering on North Wharf
Good proximity to future activation of transitional space on Wynyard Wharf	Large scale basin (relative to Karanga Plaza Steps. This may be an advantage depending the intended activity)
Space already intended to be activated for water based events (potential for moored event/swim structure within water space)	Historic stormwater outlet at south-western corner of Jellicoe Harbour
Central location relative to Wynyard Quarter water edge	Noticeable large vertical difference between land and water, particularly at low tide
Co-location with Viaduct Events Centre	Structure of the wharf is open and people can access this when in the water and could become entrapped or injured
High foot traffic for passive surveillance	Larger vessels use this area / some of these boats are expensive and could invite unwelcome access from the water
Proximity to existing land-based facilities, i.e food & beverage	Water quality as an existing issue especially around the former Shell site and from other leaching issues

Top Left: North Wharf from new breakwater
Bottom Left: North Wharf from end of Halsey Wharf breakwater



Top Right: North Wharf from Halsey Wharf
Bottom Right: Jellicoe Harbour pontoons





North Wharf/Jellicoe. Aerial.



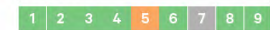
Site / Amenity Features

- ① North Wharf
- ② Jellicoe Harbour
- 🚻 Public Bathrooms
- 🚰 Public Drinking Water Refill Station
- ℹ Information Centre
- P Public Parking
- 🚏 Bus Stops
- ▽ Low Tide Depth Marker
- Waterfront Cycleway / Shared Path
- Low Activation Edge

High Risk Zones

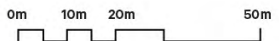
- ⚠ Halsey Wharf Vehicle Access
- ⚠ High Drop to Pontoon from Wharf
- ⚠ Shallow Water Risk

Water Quality



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WT America's Cup water testing site



Karanga Steps. Location 4.

An existing swimming site that is extremely popular for swimmers during summer but due to its location adjacent to the main boat transiting channel into the Viaduct Harbour, safety and amenity for swimmers is at times a challenge.

Users of the Steps enjoy a beautiful backdrop of the city skyline, whilst swimming/engaging with the water.

Below is a description of the site advantages and disadvantages for swimming.

Site Advantages	Site Disadvantages
Existing water access via steps	Swimming is poorly positioned in terms of an existing stormwater outlet by the Park Hyatt Hotel, resulting in water quality issues
Attractive setting and view of city skyline with harbour in foreground	Very proximate to boat transitting channel
Proximate to information centre, public toilets, public drinking fountain and public space (Karanga Plaza)	Limited tidal flushing
Deep water direct adjacent to ledge and steps for bombing	Swimming is located in a private marina
Good opportunities for spectators of swimming from Te Wero Bridge & Te Wero Island	Limited water space for swimmers at low tide
Located along the waterfront axis (has good visibility/passive surveillance along a pedestrian & cycle thoroughfare)	Steps need frequent maintenance (otherwise slippery surfaces result) - is this the safest way to enter the water?
Calm water	The site has security costs, particularly over the summer period to keep people from jumping off Te Wero Bridge
Already has a physical barrier to protect and manage swimmers and vessels	

Top Left: Karanga Plaza Public Space



Top Right: Karanga Steps





Karanga Steps. Aerial.



Site / Amenity Features

- ① Karanga Plaza
- ② Wynyard Crossing Bridge
- 🏊 Current Swim Location
- 🚻 Public Bathrooms
- 🚰 Public Drinking Water Refill Station
- ℹ Information Centre
- 👮 Security/Bridge Control Station
- 📏 Low Tide Depth Marker
- 🚲 Waterfront Cycleway / Shared Path

High Risk Zones

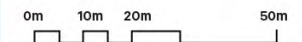
- ⚠️ Halsey Wharf Vehicle Access
- ⚠️ Tidal Zone (high slip and laceration risk)
- ⚠️ Viaduct Marina Boat Transiting Area

Water Quality



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WT America's Cup water testing site



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Inner Viaduct Harbour. Location 5.

This is a current vessel berth location. However the location is co-located with a public space - Waitemata Plaza and has excellent proximity to existing activities in the Viaduct Harbour.

arrangements (to 2030?), making this a longer term option.

Below is a description of the site advantages and disadvantages for swimming.

Berths in this location are understood to be on long-term lease

Site Advantages	Site Disadvantages
Proximate to city centre/downtown	Limited flushing in inner Viaduct (does not assist current water quality issues)
Co-located with Waitemata Plaza and Te Mata Topaki platform	Location under non-Eke Panuku lease (more difficult to transition to public use in the short term)
North-facing location	Proximate to boat transit channel
Water depth tbc	Would need to remove marina berths to create a swimming spot. This conflicts with current demand for berths.
Close to transport access and the activity of the inner viaduct	There are more vessels berthed in this area (than at Karanga Steps) which often results in more water pollution
High foot traffic for passive surveillance	Swimmers and boats may clash in this area

Left: Inner Viaduct adjacent to old Headquarters site



Right: Inner Viaduct with Te Mata Topaki platform in foreground





Inner Viaduct Harbour. Aerial.



Site / Amenity Features	
1	Waiataniwha Plaza

High Risk Zones	
1	Viaduct Marina Boat Transiting Area

Water Quality								
1	2	3	4	5	6	7	8	9

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WT America's Cup water testing site

Wynyard Point. Location 6.

The headland of Wynyard Point is to be a future park with new development.

Plans for this area/ Te Ara Tukutuku are currently being developed. This location may be explored further as part of that work, however the

location is also to be considered at a high-level for this project.

Below is a description of the site advantages and disadvantages for swimming.

Site Advantages	Site Disadvantages
Better tidal flushing for improved water quality	Swimming is considered a long term option in this location
Freedom to reinvent place narrative for this location due to Te Ara Tukutuku redevelopment	Likely ground contamination issues (leading to water quality issues)
	Active commercial fishing edges
	Existing stormwater outlet at end of wharf. Water quality also linked to tidal flow from Meola Creek further up in the harbour
	Further away from existing Wynyard Quarter & city centre amenities
	Headland is more exposed to tides, wind, waves and currents than other locations

Left: Wynyard Point



Right: Wynyard Point looking back towards the city





Wynyard Point. Aerial.



Site / Amenity Features

- ① Future Wynyard Point Park

High Risk Zones

- ⚠ Limited Current Access to Waters Edge
- ⚠ Current Stormwater Outlet
- ⚠ Current Commercial Fishing / Working Edge

Water Quality



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- WT America's Cup water testing site

Wynyard Wharf Breakwater. Location 7.

Existing water areas between Wynyard Wharf and the headland reclamation due to breakwater/wharf structures.

beginnings are unlikely to be suitable swimming spots in the short term. Below is a description of the site advantages and disadvantages for swimming.

These water areas have the appearance of 'ready-made pools', however due to their industrial

Site Advantages	Site Disadvantages
Better tidal flushing	Swimming is considered a long term option in this location
Freedom to reinvent place narrative for this location due to Te Ara Tukutuku redevelopment	Likely ground contamination issues
Successful wave attenuation due to breakwater structures	Active commercial fishing edges
Further away from bars and restaurants	Existing stormwater outlet at end of wharf
	Further away from existing Wynyard Quarter & city centre amenities
	Current lack of people-attracting activities to co-locate with
	Headland is more exposed to tides, wind, waves and currents than other locations
	Proximate to boat transit channel
	Swimmers could be washed under Wynyard Wharf due to open wharf structure
	Larger super yachts or other vessels have very limited ability to move or change direction if swimmers stray into channel
	Sanford fishing fleet have no obligation to call on entry or departure unlike the locations within the viaduct, making management of swimmers difficult

Top Left: Wynyard Wharf Edge
Bottom Left: Wynyard Wharf Breakwater

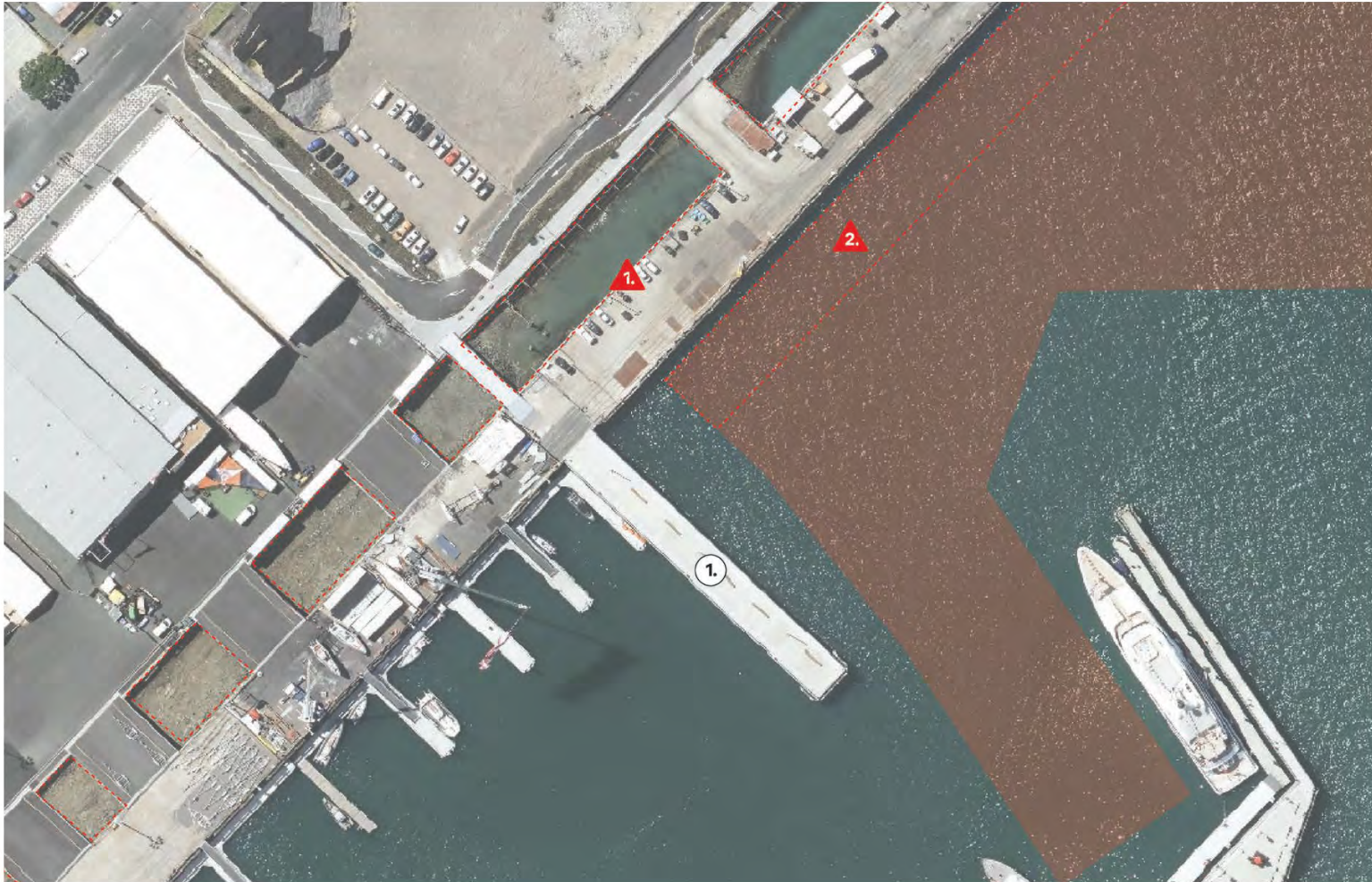


Top Right: Wynyard Wharf Edge



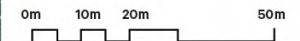


Wynyard Wharf Breakwater. Aerial.



Site / Amenity Features	
①	Wynyard Wharf Breakwater

High Risk Zones	
⚠	High Drop to Shallow Water
⚠	Private and Commercial Boat Movement / Fishing Vessel Working Edge to Wynyard Wharf



Hobson Wharf. Location 8.

This location is co-located with a relatively new wharf structure completed for Americas Cup 36. The square shape-factor of the wharf extension creates options for swimming on all edges. This location is at the entrance to the Viaduct Harbour - a narrow opening for vessels but otherwise well-located in

terms of proximity to foot-traffic and existing activities.

Below is a description of the site advantages and disadvantages for swimming.

Site Advantages	Site Disadvantages
Wharf extension has great views into Waitematā Harbour	Inner harbour of Hobson Wharf has narrow access and high boat activity
Closest water space to city centre/downtown	Wharf extension is more exposed to tides, wind, waves and currents than other locations
Can activate old America's Cup site	Bottle-neck pedestrian access onto wharf extension
Better tidal flushing compared with marina based locations	Thruster wash under Princes Wharf could pin swimmers
Future board-walk access to extension being considered	Swimmers could enter under the wharf and become entrapped
Water depth tbc	East side pontoon has been removed as it was unsuitable for berthage therefore potentially even less suited for swimming
	Public egress currently via the maritime museum
	Southwest side more suited but close to the key vessel route

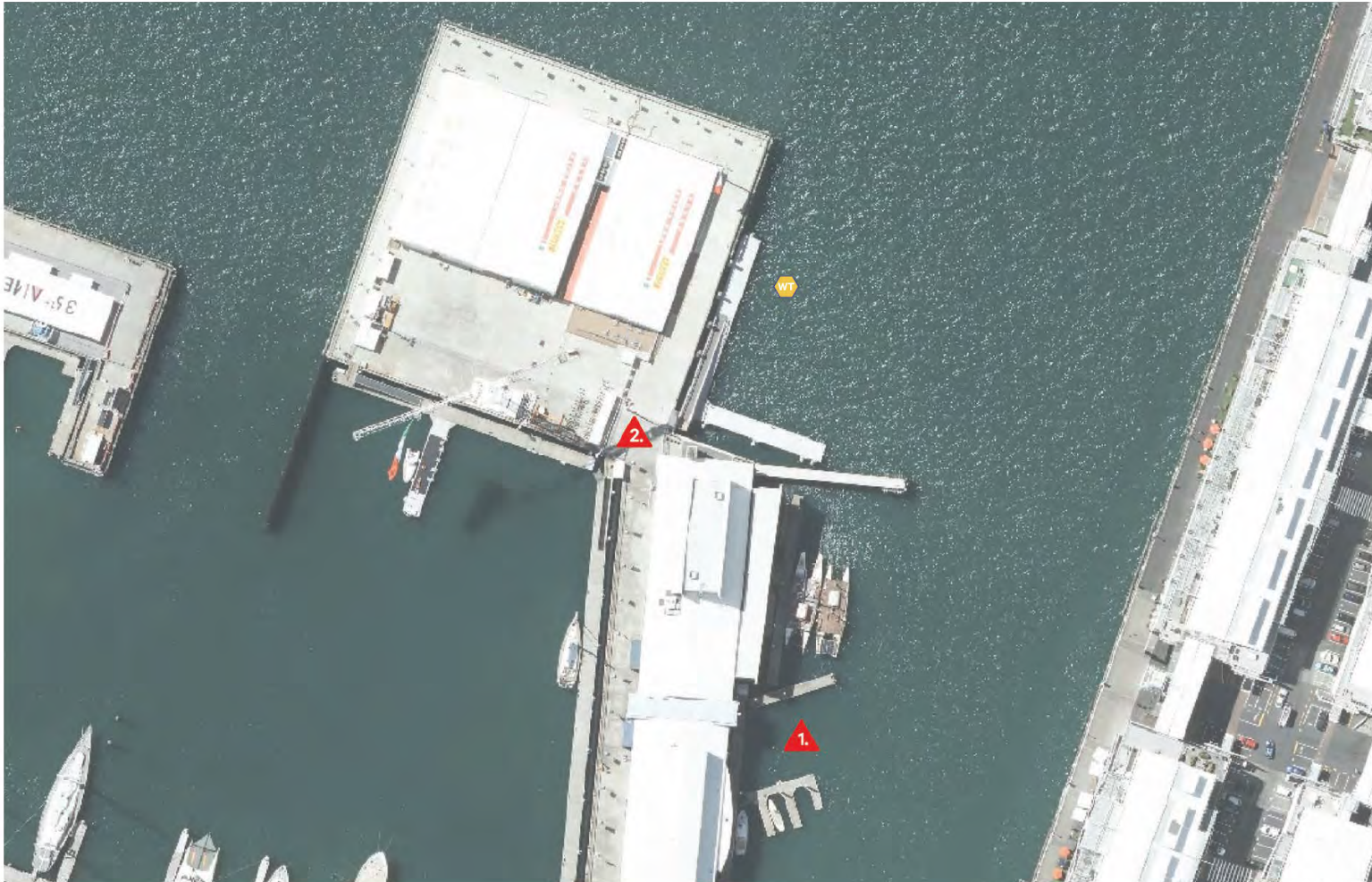
Top Left: Hobson Wharf from downtown carpark
Bottom Left: Hobson Wharf extension



Top Right: Princes Wharf from Maritime Museum
Bottom Right: Hobson Wharf extension



Hobson Wharf Aerial.



Site / Amenity Features	
	Hobson Wharf Extension

High Risk Zones	
	Current Busy Edge with Boat Movement and Maritime Museum Activity
	Bottleneck Pedestrian Access to Hobson Extension

Water Quality								
1	2	3	4	5	6	7	8	9

– For the America cup testing was completed at 9 different sites on 9 different weeks between 18/12/2020 and 15/03/2021. For this location, the results are shown above. Green was an acceptable reading, Yellow above 'alert' threshold where vigilance is needed, Orange is unacceptable and Grey is no test taken.

America's Cup water testing site



Queens Wharf. Location 9*.

Queens Wharf, considered 'the people's wharf' is a key public space along Auckland's waterfront. The wharf itself at 350m long (& 85m wide) is an extension of Queen Street and currently accommodates uses ranging from: event space at The Cloud, Ferry Berths, Cruise Facilities at Shed 10 and public art.

It is understood this location has been previously explored for swimming & jumping by Eke Panuku. Below is a description of the site advantages and disadvantages for swimming.

Site Advantages	Site Disadvantages
Identified as the peoples wharf, it has the opportunity to provide a unique experience at the base of the cities primary urban experience.	Large cruise ships still berth on the eastern edge causing spatial and functional conflicts with public access to the water-edge
Well linked to public transport at Britomart and the Ferry Terminal.	The large events spaces of Shed 10 and The Cloud take up large footprints but are unactivated between events
Temporarily activated already by the Pop-up Container Village	Heritage status of wharf could limit exploration of design options
Already used as a place to connect to te Waitematā visually by people of the city with excellent outlook across the harbour at the end of the wharf	Lots of underwash and movement of water caused by thrusters of ferries and cruise ships
The Cloud is a temporary building and earmarked for relocation. This creates opportunity for re-imagining the wharf and public access to water	The eastern edge where the available space exists is not a through path with foot traffic, therefore passive surveillance may be limited

** Queens Wharf was not discussed during Workshop 3, however this location has been included due to awareness of it as an earlier swimming & jumping opportunity*

Top Left: Queens Wharf ferry pontoons from Princes Wharf
Bottom Left: Public space between ferry terminals and The Cloud



Top Right: End of Queens Wharf
Bottom Right: Queens Wharf at night



Queens Wharf Aerial.



Site / Amenity Features	
①	Queens Wharf public space (edge also used by fisherman)
🚢	Ferry Terminal

High Risk Zones	
⚠️	Ferry Transiting Area /Frequent berthing causing high risk of entrapment
⚠️	Cruise ship births along East of Queens Wharf and West of Princess Wharf

The opportunity for this location can only occur internally as the edge of the wharf pose too high of a risk to the public if they were to enter the water near ferries or cruise ships.



Potential Location Comparison. Draft Summary.

The nine potential swimming locations have been selected based on current and future known conditions. The matrix below has been set up as a summary of advantages and disadvantages recorded throughout this initial investigation process. It presents a snapshot of the existing characteristics of the nine identified potential locations at this moment. It is envisaged this will be further developed and refined in following stages of the process, internally within Eke Panuku. In particular, potential of these locations to contribute to Mana Whenua's aspirations have not yet been addressed; and no weighting of criteria has been applied. Furthermore, more data is needed to accurately capture water quality and other environmental factors.

	1. St Mary's Bay	2. Silo Park Steps	3. North Wharf / Jelllicoe Harbour	4. Karanga Plaza	5. Inner Viaduct Harbour	6. Wynyard Point / Te Ara Tukutuku	7. Wynyard Point Breakwater	8. Hobson Wharf Extension	9. Queens Wharf
Mana Whenua									

Environment & Mauri									
Water quality	○	○	○	○	○	○	○	○	○
Wind / wave exposure	●	●	●	●	●	●	●	●	●

People & Vibrancy									
Ease of access	●	●	●	●	●	●	●	●	●
Sense of place	●	●	●	●	●	●	●	●	●
Proximity to recreational activities	●	●	●	●	●	●	●	●	●
Safety									
Proximity with moving vessels	●	●	●	●	●	●	●	●	●
Open wharf structures	●	●	●	●	●	●	●	●	●

<ul style="list-style-type: none"> ● Good / Acceptable ● Average / Some concerns ● Poor / Higher risk ○ More data required / N.A 									

Potential Location Comparison.

Draft Summary.

Further investigation is required to determine the viability of the nine identified locations and which swimming/jumping facilities could be appropriate there. The time-scale, potential facility size and indicative cost gathered below are indications of the potential and limitations of each location to be further considered when refining the list.

	Indicative time-scale to provide for safe swimming / jumping activities*.			Indicative size of swimming facilities these locations could cater for (water space)**.			Indicative cost implications to provide for safe swimming / jumping activities.		
	Short-term potential 0-2 years	Medium-term potential 2-10 years	Long-term potential 10+years	Small <600m ²	Medium 600-3,000m ²	Large >3,000m ²	\$	\$\$	\$\$\$
1. St Mary's Bay	✓	✓	✓	✓	✓	✓	✓	✗	✗
2. Silo Park Steps	✓	✓	✓	✓	✓	✗	✓	✓	✓
3. North Wharf / Jelllicoe Harbour	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Karanga Plaza	✓	✓	✓	✓	✗	✗	✓	✗	✗
5. Inner Viaduct Harbour	✗	✗	✓	✓	✓	✓	✗	✓	✓
6. Wynyard Point / Te Ara Tukutuku	✗	✓	✓	✓	✓	✓	✗	✓	✓
7. Wynyard Point Breakwater	✗	✓	✓	✓	✓	✓	✓	✓	✓
8. Hobson Wharf Extension	✗	✗	✓	✓	✓	✓	✗	✗	✓
9. Queens Wharf	✗	✓	✓	✓	✗	✗	✗	✓	✓

*Excluding improvements required to achieve suitable water quality

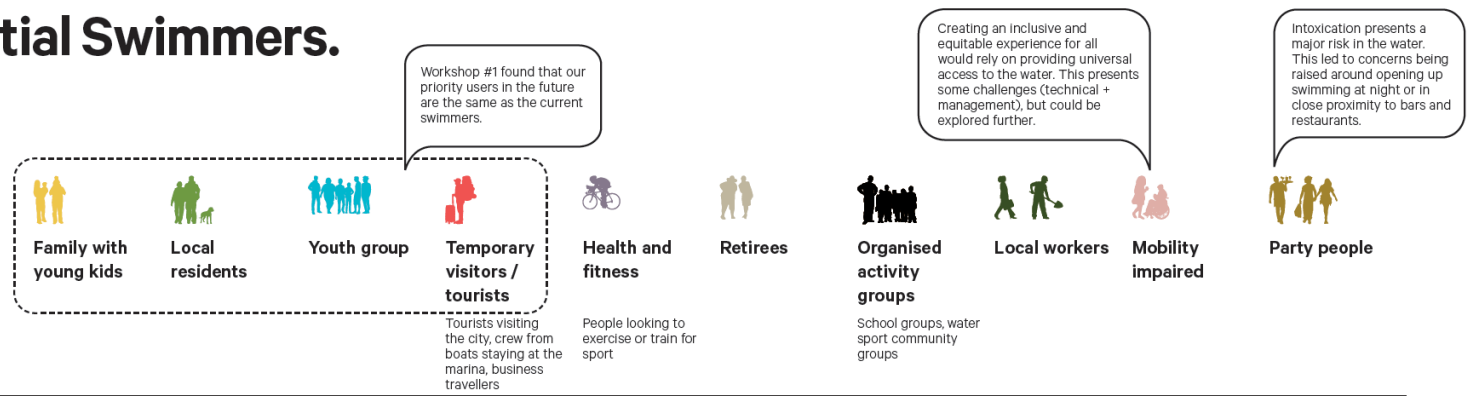
**For reference:
 Karanga Plaza water area (low tide): 475m²
 Olympic swimming pool water area: 1,250m²
 Parnell Baths water area: 2,400m²

3. Users and Swimming Typologies.



Current and Potential Swimmers. User Matrix.

Isthmus.



The Auckland waterfront needs to reflect the diverse communities of Tāmaki Makaurau, with their unique needs and aspirations. With the intent to open up the waterfront to the public and offer spaces and facilities for safe swimming and jumping, there is the opportunity to attract new waterfront users, encourage them to stay longer, or come more often.

Whilst various forms of swimming and jumping have been explored, water-base recreation could also include one-off water-based events (such as manu competition, inflatable water park etc) or mana whenua cultural practices. Opportunities relative to recreational activities are further explored in the next pages.

Engagement with te Waitemātā for spiritual and cultural purposes first and foremost relies on the water to be healthy. Further consideration of mana whenua's aspirations relative to customary practices is to be incorporated in the next steps of this project. This will ensure a broader understanding of water engagement opportunities, not limited exclusively to swimming and jumping activities.

	Family with young kids	Local residents	Youth group	Temporary visitors / tourists	Health and fitness	Retirees	Organised activity groups	Local workers	Mobility impaired	Party people
Current user	●	●	●	●			●	●		
Potential user	●	●	●	●	●	●	●	●	●	●
Activities										
Formal recreation		●			●	●	●			
Informal recreation	●	●	●	●		●	●	●	●	●
One-off events	●	●	●	●	●	●			●	●
Cultural practices	●	●	●	●		●		●	●	
Mode of access										
On foot	●	●	●	●	●	●	●	●	●	●
Cycle / micro mobility		●	●	●	●					●
Public transport			●		●	●	●		●	●
Private vehicle	●				●	●	●		●	
Taxi / ride-share				●		●				●
Boat				●			●			
Time										
Week days AM		●		●	●	●	●	●	●	●
Week days lunchtime				●	●	●		●	●	●
Week days PM / evening		●	●	●	●	●	●	●	●	●
Weekends	●	●	●	●	●	●	●		●	●
Holidays	●	●	●	●	●	●			●	●
Night time		●		●					●	●
Price										
Only if free	●		●	●	●		●	●	●	●
OK with additional fee		●		●	●	●			●	●

Key Precedents.

In recent years, cities around the world started to experiment with new public waterfront amenity, reconnecting city residents with a once forgotten or disregarded seascape—or riverscape. Many cities would face similar issues as Auckland, with reclaimed landscapes, post-industrial uses and polluted land and water environments.

With a focus on both recreation and promoting interaction with the natural environment, provision for waterfront swimming in urban settings is becoming more and more common.

We can learn from these innovative and transitional interventions combining water activation, land amenity and specific management methods to create a unique response that would serve the people of Tāmaki Makaurau and te Waitematā.

The key precedents presented here helped us broaden our perspective on the form swimming and jumping activities could take on the waterfront. They explore a broad range of scales and typologies, and address topical concerns of safety, water quality and on-going public education.



Aarhus Harbor Bath / BIG. Denmark

This purpose built swimming area provides the full range of swimming opportunities for recreational swimmers within the active harbour space of Aarhus. This now constitutes a major city destination, attracting locals and visitors alike to the waterfront.

- Enclose swimming to separate it from wider harbour vessel activity and easier management of **safety**
- Provide both natural and separated water conditions to deal with fluctuations in **water quality**.
- Create space for observation of swimming as well as periphery economic opportunities



Kastrup Sea Bath / White Arkitekter. Denmark

Kastrup sea bath is a unique and iconic swimming experience harnessing strong architectural form to draw people out from the seas edge and into the deeper water where swimming and jumping can be accommodated.

- Purpose built structure allows for control of **safety** entering and exiting water
- Provides amenity in terms of shelter from wind and dry storage of personal belongings



Berlin Badeschiff. Germany

This swimming spot is completely separated from the river water due to the water quality at the time of construction being unsuitable for swimming. Providing for this swimming experience in immediate proximity to the water has been used to bring public attention to the water quality issue—where great progress has been made since then.

- Allows for swimming immediately and is removed from **water quality** or other environmental conditions such as water flow or wildlife.
- Brings attention to and platforms issues around **water quality** with the urban context.

Key Precedents. Continued



Plus Pool / Family + PlayLab in collaboration with Arup, USA

This conceptual design—yet to be completed—is semi-separated from its context in the Hudson River with the walls of the floating pool proposed to filter the water as it flows past. The design aims to accommodate a range of different user groups and swimming typologies through variance in depth and water access, and overall flexibility to use for events etc.

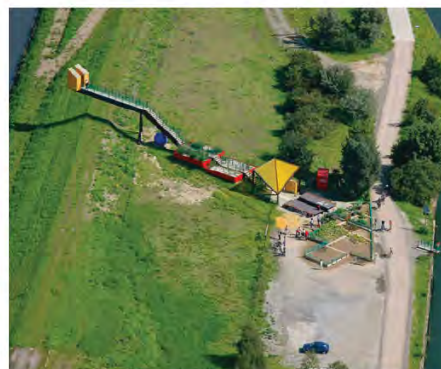
- Seeks to educate and actively mitigate the **water quality** concerns in the area.
- Is using **marketing / communication** and intermediate installations to gain public support and momentum before its final construction



Kings Cross Pond Club / Ooze, England

Initially installed as an art exhibition before gaining public support, this project exemplifies the potential to provide a unique experience as a means to organise people behind a cause through recreation. Facilitating a potential change of use through semi-permanent public activation.

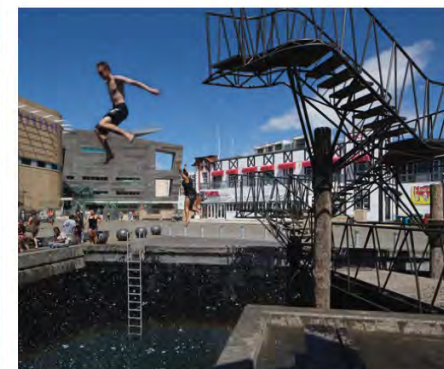
- The project has been scaled and added to over time to increase amenity and manage the **safety** of increased usership connected to pollution of people swimming and the capacity of the natural filtration used as part of the initial design.
- Seeks to provide an experience of swimming in fresh water which has become foreign place in the city.



Between Water / Ooze, Germany

This installation by Ooze is designed to highlight a public conversation about water treatment and water quality through amenity and interactive engagement with the content matter.

- Removed from the activity of swimming directly but discussing the other uses of water in which **water quality** are seemingly more pressing or confronting to highlight key principles.
- **Education** through bright colourful and engaging design. Water treatment in action rather than on a sign or display.



The Wellington Diving Board / Wraight and Associates, NZ

A twisting and turning staircase springing from the wharf that appears to lead nowhere allows for the formalization of the popular summer activity of jumping in the water.

- Clearly identifies an appropriate site for this high risk activity ensuring water depth, easy egress out of the water and the ability to observe/monitor natural risks like **water quality**.
- Is well connected to the central city and is observable from all sides increasing passive surveillance as well as the boosting the spectacle of the activity



4 Recommendations and Next Steps.

Waterfront Swimming Opportunities.
Eke Panuku.
29 September 2022.

Next Steps.

Getting to the short-list.

Set the Swimming Vision and Objectives.

What do we want to achieve?

The four draft principles (Mana Whenua, Environment & Mauri, People & Vibrancy, Safety) need to be expanded further with clear objectives to define what swimming and jumping activities intend to deliver for Tāmaki Makaurau. From there, criteria to evaluate and refine the list of potential swimming locations will need to occur. This will be developed internally by Eke Panuku and will require further input from stakeholders and Mana Whenua.

Match Opportunities (Typologies) with Potential Locations.

What could work where?

The list of potential swimming locations identified through this initial process should be further refined based on the swimming/jumping opportunities they can best cater for. For example, some locations are more suitable for enclosed purpose-built platforms, while others would better suit a simple diving board. Associating opportunities and locations will ensure all appropriate opportunities—and their target users—are considered before excluding any location from the short-list.

Addressing water health.

Monitor water quality and display information on site.

Is improved water quality data available?

Poor water quality at the waterfront is both a health risk for people and for the environment. Water quality data is partially available, but not for all potential locations, and not currently displayed on site (including at existing swimming spots like Karanga Plaza). Accurate information made available to the public is key to encourage safer swimming. Central city swimming locations could be prototypes to experiment with real-time water quality testing, with clear display of the pollution levels on site and of possible health hazards this represent. This could lead to further initiatives around education and public awareness about the mauri of the Waitematā. Note that the technology for real-time water quality testing is not yet reliable / available.

Raise awareness and educate the public about the mauri of the Waitematā.

Can we combine education & awareness of water quality together with swimming & jumping opportunities?

Addressing water quality issues will require time and commitment. It will take a while before swimmers can enjoy a dip in the Waitematā without having to worry about water pollution—or for natural ecosystems to be restored to/near their pre-colonial health. In the meantime, raising awareness about the issues and potential solutions is a key opportunity to build community engagement and interest. The waterfront is a key area of the city centre, with broad exposure to a wide range of locals and visitors. Raising awareness and discussing the health of the water through temporary activations or installations, education programmes, artworks, performances or innovative signage *in-situ* could help build a positive story around the environmental regeneration of our waterfront.

Bringing the community on board.

Engage with waterfront current and future users.

Can we include participatory processes to further shape waterfront swimming & jumping?

The waterfront is a major asset for Auckland. The transformation of its land and water spaces—including opening areas up to the public—presents extensive opportunities to redefine how the city and the moana come together. Aucklanders are best placed to decide how they want to swim, jump and engage with the water (at the waterfront). This is a real opportunity to co-design or adopt a participatory process to re-think with the community what the waterfront could look like in the next 20 years. Building community buy-in and interest could happen step by step and at different levels of the planning process, in particular once the internal process to refine the short-list of potential locations has been completed alongside the project vision and objectives.

Karanga Plaza. Summer 2022/2023.

Left: Making More and More — ThingKing on behalf of WWF in collaboration with Ogilvy

The tidal steps at Karanga Plaza provide public access to the waters edge. They enable swimming, which has seen increasing popularity at this location. This has resulted in swimming ropes/barriers to manage conflicts between swimming space and vessel movement. There is also demand for jumping which has occurred previously from balustrades.

Swimming and jumping at the tidal steps has safety issues as these two activities were not part of their original design intent. These issues are being addressed as part of this project by way of a parallel Risk Reporting process being undertaken by Resolve Group.

In the short term (Summer 2022-2023), some of the identified safety concerns could be addressed through controls and management measures, as recorded in the safety register during Workshop 2. This could include on-site lifeguards, appropriate public rescue equipment, safety signage and water quality awareness.

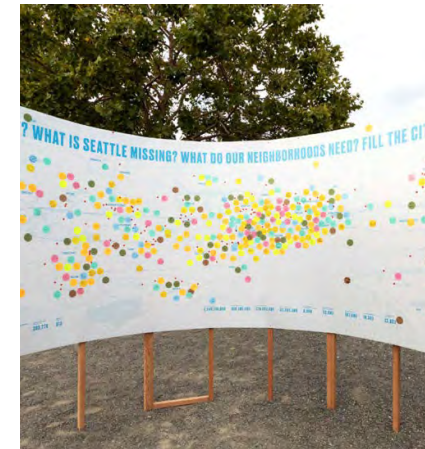
It is suggested that some of these elements could inform an integrated engagement and education opportunity. Potentially creating an installation to educate waterfront users while collecting their opinion and aspirations for the waterfront.

Waterfront Swimming Opportunities.
Eke Panuku.
29 September 2022.



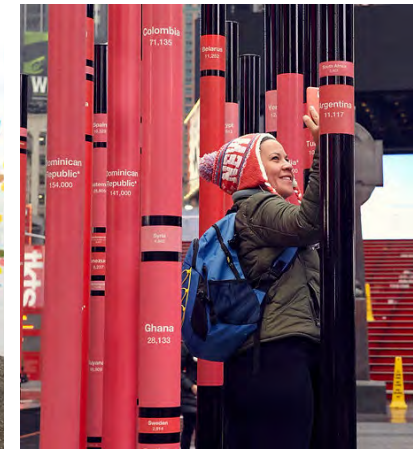
Top Middle: Seattle Design Festival, Vacant Seattle — Studio Matthews

Bottom Middle: London 2012 Olympics Public Consultation — Studio Matthews



Top Right: We Were Strangers Once, Too — Genevieve Hoffman and Noa Youse

Bottom Right: Seattle Design Festival, Vacant Seattle — Studio Matthews



5. Appendix.



44. Waterfront Swimming Opportunities.
Eke Panuku.
29 September 2022.

Workshops Findings.

Workshop 1. 14/07/2022

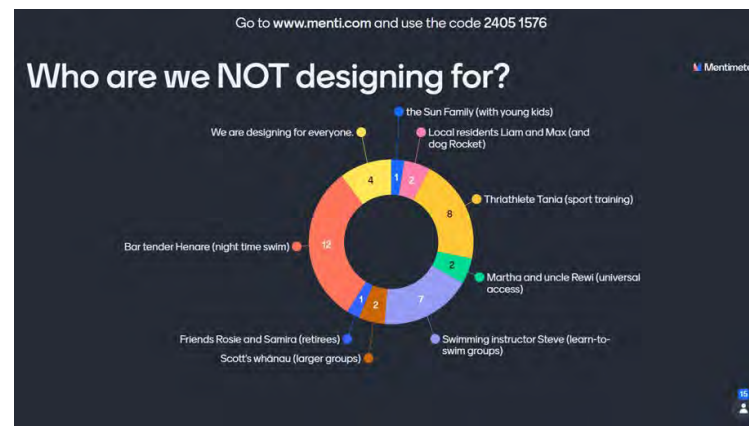
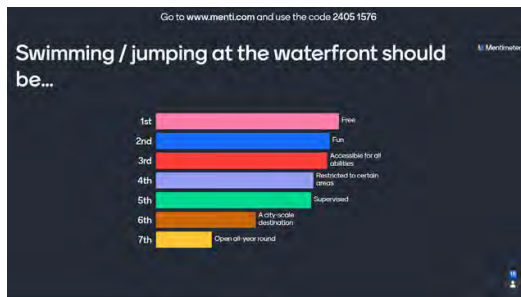
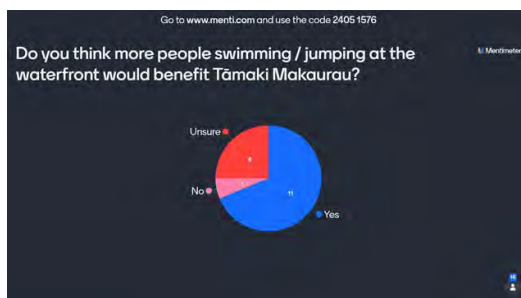
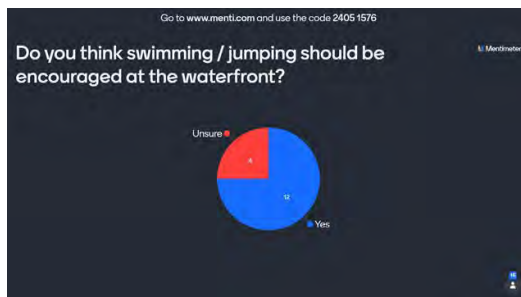
Workshop 1 was about introducing the project to attendees and to start thinking around opportunities to swim and engage with the waterfront.

Questions were asked and conducted via Mentimeter, which can be seen along with the results on this page.

The majority of workshop attendees did think swimming should be encouraged at the waterfront, whilst caveated via discussion points which followed the question/poll. These mostly related to swimming being encouraged as long as safety, drowning prevention and water quality measures to improve upon existing conditions occur.

User groups were also explored in terms of guiding the subsequent exploration of precedents and swimming opportunities.

Workshop 1 also had a risk identification component to it, run by Resolve Group.



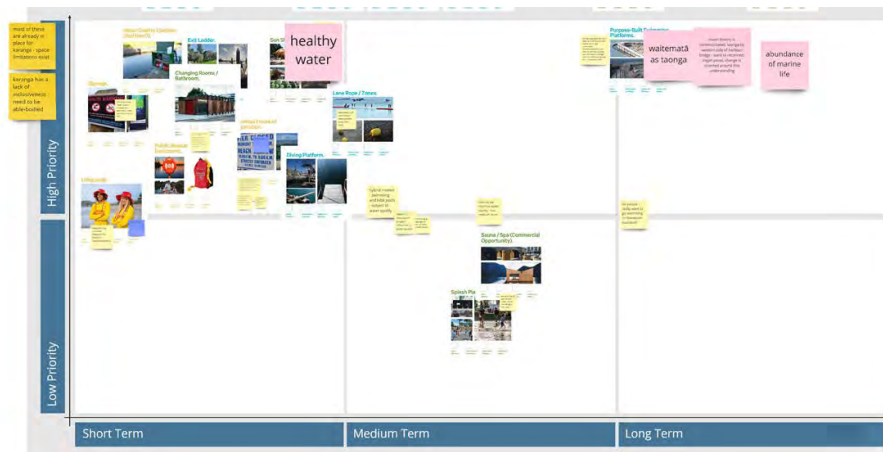
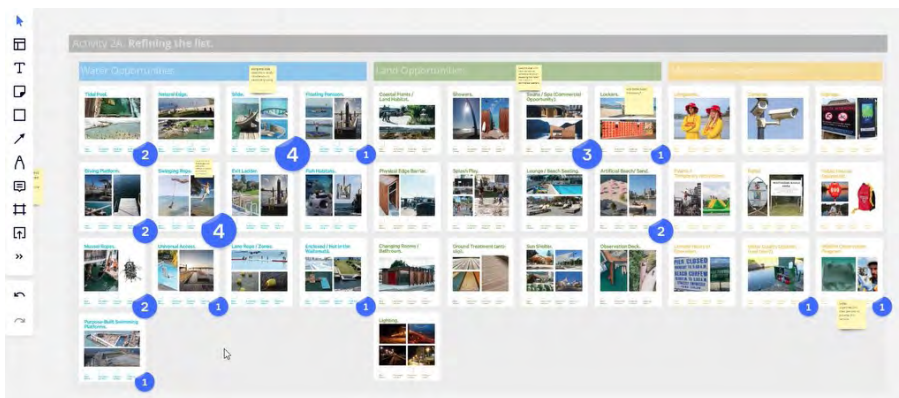
Workshops Findings.

Workshop 3. 11/07/2022

Workshop 3 attendees were asked to vote to *exclude* the opportunities that didn't seem appropriate to explore further at Auckland waterfront.

The opportunities that received the most votes were the slide and the swinging rope, due to safety concerns (top image). Most attendees found that all opportunities were worth exploring further, providing that safety risks will be addressed through the design process.

Second activity of the workshop saw a discussion around priorities over time (bottom image). Without a clear vision around what the future of swimming could be at the waterfront, most comments and opportunities were identified for the short term (mostly easy to implement / deliver management opportunities). Full list of opportunities are gathered in the following pages, with key comments from the workshop included in speech bubbles.



Water Opportunities.

Water Opportunities describe the primary way people can engage with the water. These might be activities, structures or installations on the water or enable people to enter or exit the water. They may also define a swimming or jumping area through their physical design/appearance and may include further opportunities to support the mauri of the Waitematā and the marine wildlife.

"The swing and slide options need more careful considerations"

"Who will manage the mussel ropes as they can damage propellers of vessels and need ongoing maintenance. Mussel shells not compatible with swimming"

"Mussel ropes help promote a more abundant ecology of marine life which mana whenua support"

Purpose-Built Swimming Platforms.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Slide.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Lane Rope / Zones.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Mussel Ropes.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Natural Edge.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Tidal Pool.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Floating Pontoon.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Fish Habitats.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Water Opportunities. Continued.

"Safety risk - does Eke Panuku want to take this on board?"

"Not sure if this is in the spirit of what we are trying to do in regard to access into waitematā"

"This could provide a unique experience between swimming and observing the water & marine life"

Diving Platform.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Floating Pontoon.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Universal Access.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Enclosed / Not in the Waitematā.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Exit Ladder.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Swinging Rope.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

"This would be more difficult to find playground standards for and may be difficult to control surrounding environment to avoid higher risks"

Land Opportunities.

Land Opportunities are about the amenities and facilities on land that would support swimming and jumping activities. These complete the swimming experience and support manaakitanga for the waterfront visitors.

"Not supported in principle by Mana Whenua."

"Reclamation or dredging mixes eco-systems causing a transferring of taonga, disruption of mauri and the intrinsic connection to whenua."

"Ensure toilets are away from kai areas"

Splash Play.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Artificial Beach/ Sand.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Sun Shelter.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Changing Rooms / Bathroom.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Observation Deck.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Ground Treatment (anti-slip).

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Lounge / Beach Seating.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Physical Edge Barrier.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Land Opportunities. Continued.

"Are these super necessary or do they just create another security risk?"

"Does this align with what we want to achieve in terms of accessing the water? this is more a commercial element"

Coastal Plants / Land Habitat.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Lockers.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Sauna / Spa (Commercial Opportunity).

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Showers.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Lighting.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

BBQ / Kai Space.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Along with allowing space for the sharing of kai there needs to be appropriate facilities for waste

Management Opportunities.

Management Opportunities include the non-built elements that could improve the safety of swimmers and jumpers. These also include measures to inform and educate waterfront users on the environment they are engaging with.

"Learn to swim programs and water safe education would be an approach to safety from holistic perspective"

Rahui.

Two signs are shown. The first is a circular 'RAHUI' sign with a red prohibition symbol over a swimmer. The second is a rectangular sign for 'WAITAKERE RAHUI AREA' stating: 'A CUSTOMARY PROHIBITION HAS BEEN PLACED TO PROTECT OUR RAHUI FOREST. PLEASE DO NOT ENTER FORESTED TRACKS OR AREAS.'

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Lifeguards.

Two lifeguards, a man and a woman, are shown wearing yellow wetsuits and red hats, standing with their arms crossed near a body of water.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Cameras.

Two white security cameras are mounted on a black pole against a clear blue sky.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Events / Temporary Activations.

Two photographs are shown. The left one shows a person on a diving board at a pool. The right one shows people on a large, colorful inflatable slide in a park setting.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Water Quality Updates (real time?).

A green water quality monitoring station is situated on a concrete bank next to a river. It has various sensors and equipment on it.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

Wildlife Observation Program.

Two images are shown. The left one is an underwater shot of a stingray. The right one shows a person in a wetsuit and hat holding a small, light-colored animal, possibly a bird or a small mammal.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mana Whenua	Environment and Mauri	People and Vibrancy	Health and Safety

There is potentially better organisations than Eke Panuku to provide this service.

Note: Technology to provide real time water quality information is not yet available / reliable. This could be a longer term aspiration and research & innovation opportunity. In the meantime, water sampling and testing will follow the standard SafeSwim process.

Management Opportunities. Continued.

Signage.



- Mana Whenua
- Environment and Mauri
- People and Vibrancy
- Health and Safety

Limited Hours of Operation.



- Mana Whenua
- Environment and Mauri
- People and Vibrancy
- Health and Safety

Public Rescue Equipment.



- Mana Whenua
- Environment and Mauri
- People and Vibrancy
- Health and Safety

**Land.
People.
Culture.
Isthmus.**

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Memorandum

To: Eke Panuku Developments
Attention: Jacob Marshall, Bridget Law
From: Tim Christensen (Resolve Group), Tim Crow (Resolve Group)
Date: 31/08/2022
Subject: **Eke Panuku Auckland City Swimming Study - Risk and safety review**

1.0 Introduction

As the waterfront continues to transition from an industrial to public space and more people become attracted to the area, it is important to continually review, test and balance the best swimming outcomes.

Eke Panuku has engaged Isthmus Group (IG) and Resolve Group (RG) to assist with a risk, safety and opportunities study on current and possible future swimming locations and activities in the Auckland City area. The study is to be presented to stakeholders and internal Panuku staff for further consideration and decision-making on swimming in the area.

Presently swimming occurs at Karanga Plaza in the Viaduct and St Marys Bay. Part of IG's scope was to investigate other possible swimming locations in the Auckland city area and form a long list of options as well as undertake a high-level study of corresponding activities that could be used at any of the locations. 7 possible long list locations were identified in the general city area with various activities possible. Four workshops have been run with stakeholders to receive feedback on risk, safety and the various location and activity proposals.

Part of RGs scope involves providing a detailed risk register of the currently in-use Karanga Plaza area and also the other long list of location options identified by IG.

This memo presents a summary of the process taken to date, the main risks and opportunities found in the study along with copies of the risk registers.

2.0 Workshops

Four workshops have been run to date. A brief summary of each is noted below.

Workshop 1

- General workshop to present the aim of the study and receive feedback on risks and opportunities from stakeholders. Facilitated by RG.

At this workshop the purpose was to:

1. Learn or refresh ourselves on project objectives and how they align with the conclusions of the discussion from Eke Panuku Board in March 2022.

2. Share useful background information that could improve the context, scope and criteria of our upcoming risk and opportunities workshops.
3. Discuss ideas and share concerns so that Resolve Group can collate the current conditions and hazards/ behaviours of swimming & jumping along the water's edge.

Workshop 2

- Detailed risk workshop on the Karanga Plaza Tidal Steps swimming area. Facilitated by RG.

At this workshop the purpose was to:

1. Identify risks and suggest controls for the management and operation of the Karanga Plaza Tidal Steps
2. Populate the risk register.
3. Provide a consistent approach to risk management across Eke Panuku and waterfront assets

Workshop 3

- Long list locations and high-level possible activities feedback workshop. Facilitated by IG.

At this workshop, the locations and types of facilities were discussed. While not the main purpose of the workshop, RG collated additional risks and controls at this workshop identified at each location and the type of facility/use.

Workshop 4

- Risk and safety review on the possible locations and high-level activities. This was presented as a matrix and facilitated by RG. A copy of the matrix is given in table 2.

This workshop did not focus on all features/activities identified in Workshop 3, just the features/activities that may have inherent health and safety risks.

3.0 Common risks and controls discussion

Some risks are generally common across all locations. A summary of these risks has been listed below along with possible controls where applicable.

Common Risk	Controls
- Water quality	- Live updates - Investigations into causes - Boats use holding tanks
- Safety around boats	- Designated roped-off swimming areas - Signage banning jumping from Wynyard Crossing bridge.
- Water Safety	- Lifeguards
- Collisions due to jumping	- Security guards - Lifeguards - Dedicated facility with rules for use
- Cuts and scrapes from oysters	- Regular maintenance of swimming areas to remove shells - Location selection

- Shallow water presents a risk for jumping	- Dredge to increase the depth
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Table 1: Common risks and controls

3.1 General Common Risks Discussion

Water quality

A common and important risk noted by the stakeholders was water quality. Poor water quality has multiple potential causes in this area, including:

- Discharge from boat holding tanks.
- Storm and waste water outlets nearby.
- Leaching from the reclaimed land at the tank farm.
- Hydrocarbon spills from boats.
- Chemicals from maintenance of boats and other works in the area entering the water.

The consequence of swimming in poor water quality is that there is a risk that swimmers will become sick. This can be partially controlled by banning or limiting swimming at times of poor water quality such as after heavy rainfall or other events. Safeswim allows beach users to make informed decisions on when and where to swim. Safeswim is a partnership between the Auckland Council and other regional councils, Surf Life Saving New Zealand, Surf Life Saving Northern Region and the Auckland Regional Public Health Service. New technology such as real-time messaging boards and water quality prediction models could also be used to control the risk.

Safety around boat traffic

The Viaduct marina is thought to be the only working marina in the world that allows swimming. With boats also using the area there is a possible risk that there will be a conflict between boat traffic and swimmers. This could result in injuries to swimmers. With Wynyard Crossing bridge nearby to Karanga Plaza swimmers have been known to jump off the bridge into the middle of the channel, which could result in impact boats in the area. Other locations have similar risks with boats nearby.

Controls include limiting swimming to roped-off areas, banning jumping from Wynyard Crossing Bridge with signs and using areas for swimming that are away from boat trafficked areas.

Water safety

Water safety is a risk for all swimming sites. Consequences are fatal or non-fatal drowning or other water safety incidents such as hyperthermia.

This risk could be controlled by using swimming locations where the water is shallow like St Mary’s Bay or by providing lifeguards over the busy summer periods to control possible drowning and other risks. Lifeguards are trained in water safety so are well placed to pick up and act on instances of water safety risk.

Collisions from jumping

A risk exists that there will be collisions from users jumping from areas such as the area that already exists at Karanga Plaza. The cause of the risk is that a previous jumper will not be sufficiently out of the area before the next user jumps.

Controls for this risk include signage to explain risks and provide rules for use. Additionally, security guards or lifeguards could help to police the area and make sure that the rules were being followed.

This risk also applies to some of the possible future activities such as rope swings and slides.

Cuts and scrapes

Karanga Plaza and other areas from the long list study will be subject to oyster and other shellfish growth over time. This presents the risk of cuts and scrapes when entering or exiting the water. There may also be cuts and scrapes from falls on slippery wet concrete.

The risk can be controlled by maintenance work to remove the shells from areas like Karanga Plaza or other marina areas. Beach locations like St Marys Bay will be more difficult to control through maintenance therefore it would be more practicable to control sharp shells using signage to alert users to the risk. Regular maintenance to remove slippery algae build-up as well as a no-running rule may help to limit slips and scrapes from falls on concreted areas.

Shallow water jumping risk

Some of the long list locations may be too shallow to allow jumping to take place. If jumping is a desired activity the depth could be increased by dredging the area to control the risk of injury to users from hitting the bottom.

3.2 Long list risk and safety table

The following table gives a summary of the risks and controls for the various long list locations and activities. Refer to the IG report titled Preliminary Investigation Report for a plan view and description of the locations. Note that there were additional possible activities presented by IG for discussion at workshop 3 that are not listed in the table below as they do not have safety implications. In some cases, the activities may form controls for risks, where this happens, they have been included as appropriate.

Panuku City Swimming Study - Long List Options Safety Matrix

Note: Activities identified from opportunities shared in workshop 3 have been added with controls also from workshop 3 included as appropriate. Opportunities that are not shown have not been included as they do not have safety implications.

Key:

Location/Activities	Purpose built swimming platforms	Slide	Mussel Ropes	Diving Platforms	Floating Pontoon	Swinging Rope	Events	Main specific hazards	Controls			
St Marys Bay								- Water quality - Cuts from shells at low tide - Conflict with other users i.e small sailing craft, RC yachts	- Real time water quality updates			
Silo Park Edge			Too shallow Constrained area	Boat traffic	Too shallow Constrained area	Too shallow Constrained area	Uncontrollable and constrained area	- Constrained area with boat traffic - Cuts and scrapes from oysters - Water quality	- Lane ropes - Real time water quality updates			
North Wharf/Jettice					Shallow		Uncontrollable	- Shallow water (jumping hazard) - Boat traffic	- Dredging - Real time water quality updates			
Inner Viaduct Harbour			Marina traffic	Marina traffic	Marina traffic	Marina traffic	Uncontrollable	- Cuts from oysters and mussels - Water quality, storm water outlet nearby - Intoxicated public - Marina traffic	- Real time water quality updates - Lane ropes			
Hobson Wharf							Uncontrollable	- Water quality - Boat traffic - Wash under the wharf from boats - Open and deep water (on the north side)	- Real time water quality updates - Lane ropes - Wash diffusers			
Wyvyard Point							Uncontrollable	- Water quality - heavy boat traffic - deep and potentially rough water	- Real time water quality updates - Lane ropes			
Wyvyard Wharf Breakwater							Uncontrollable	- Waves and rough water - Water quality - Boats including a critical location for turning super yachts	- Lane ropes - Real time water quality updates			
Short term												
Karanga Plaza			Water Quality	Water Quality		Water Quality	Not enough space	- Water quality/TBC - Marina traffic - Oyster or other cuts and scrapes	- Area monitored by security guards - Lane ropes.			
Long term												
Karanga Plaza							Not enough space	- Marina traffic, - Oyster or other cuts and scrapes	- Area monitored by security guards, - Water quality improved or repulsive controls put in place			
Controls	- Barriers around edges and clear and simple signage advising usage rules - Dredging to provide depth. - Security guards/life guards monitoring users to avoid collisions.	- Falling from height (depending on the platform height) - Risk of divers hitting the bottom. - Collisions between users		- Security guards monitoring users. - Lifeguards.	- Slips, trips and falls - Collisions between users. - Deep water at the end of the slide relative to the start.		- Breaking ropes may tangle around boat propellers. - Cuts and abrasions from impacts with swimmers.	- Impacts between jumping users. - Slips and impacts on the edges.	- Swimmers encouraged into deeper water. - Divers hitting the bottom in shallow water.	- Collisions. - Hitting edges. - Deeper water.	- N/A	- N/A

Table 2 - Locations and activities options matrix

3.3 Karanga Plaza risk and controls discussion

A detailed risk review for the Karanga Plaza area has been completed and is attached in Appendix A. Details on present and additional controls are also given in the register.

This has identified some extreme and high risks, that unless controls are put in place require T2 and/or CE/ELT acceptance. Depending upon the suite of controls implemented, the residual risk of continued use should be brought down into the tolerable range.

Below is an extract from the Eke Panuku Risk Management Framework indicating the gateway approval required depending on the risk profile of each hazard identified.

4.9 Risk Matrix

The risk matrix is an indicative diagrammatic representation of the risk levels on a 5x5 matrix.

Level 1	Low	Tolerate risk
Level 2	Moderate	Tolerate if the cost of risk elimination, transfer or reduction is greater than the improvement gained.
Level 3	High	Intolerable (active management by Division and Department managers (T2 & T3)
Level 4	Extreme	Intolerable (CE and ELT)

Consequences	5 Catastrophic	Low	High	High	Extreme	Extreme
	4 Major	Low	Moderate	High	High	Extreme
	3 Moderate	Low	Moderate	Moderate	High	High
	2 Minor	Low	Low	Moderate	Moderate	High
	1 Insignificant	Low	Low	Low	Low	Low
		1 Rare	2 Unlikely	3 Possible	4 Likely	5 Almost Certain
		Likelihood				

Figure 1 – Eke Panuku risk matrix scoring criteria

Specific activities at the Karanga Plaza tidal steps area currently include swimming, paddling from the lower steps, casual use as a place to sit and relax and also jumping occurs from the wall outside the balustrade on the southern edge.

The current activities at Karanga Plaza mentioned above carry Health and Safety risks that are covered in the risk register. Some Risks and controls ordered by activity are also summarised below. Note this summary includes only the more severe risks and is not a definitive list, refer to Appendix A for more information.

Activity	Main Risks	Current Controls	Additional controls
Swimming	- Water quality from faecal matter, chemicals from marina-related works or leaching from the tank farm.	- Safe swim website. - Holding tanks on boats.	- Real-time water quality updates. - Fix sources of poor water quality.
	- Swimming-related incidents e.g. drowning or hyperthermia	- Security guards in the summer months watch behaviours in the area	- Lifeguards. - Survey security guards to find areas for improvement.
	Altercations with vessels using the marina.	- Markers that provide a defined swimming area.	
	- Cuts, scrapes and slips and trips from entering and exiting the water.	- Regular maintenance.	- Improved entry and exit points.
Jumping	- Collisions with other swimmers causing injuries or drowning.	- Signage showing the jumping area.	- Improvement to the balustrade to make the area accessible to competent swimmers only with a gate to the platform for easy access and to stop jumpers climbing the balustrade. - Lifeguards to supervise the activity. - Signage to explain rules.
	- Altercations with vessels using the marina. - Jumping from Wynyard crossing bridge.	- Markers that provide a defined swimming area. - No jumping from Wynyard wharf signage. - Security guards in the summer months.	- Improvements to the Wynyard crossing Bridge balustrade to make it less climbable.

Discussion on Karanga Plaza Risks and Controls

Generally, the major health and safety risks discussed at the workshops fall broadly into the categories of poor water quality and water safety concerns. Water quality is the more difficult of the two to manage with controls as some of the sources of wastewater are currently unknown. Additionally in certain conditions chemicals can leach out of the tank farm reclaimed land and into the viaduct area and there may be accidental discharges from boats in the marina.

Generally controls for poor water quality include monitoring of conditions using predictive models and banning or limiting swimming during periods of poor quality. The location also appears on the Safeswim website showing current conditions and boats in the marina must use holding tanks. There is a boom around the swimming area to control the spread of any hydrocarbons into the area. Additional controls that could be used are real-time messaging

to alert users via a messaging board located nearby and further investigations into the sources of poor water quality by the council departments.

Water safety incidents in comparison can be controlled more easily. A source of risk is the non-code-compliant balustrade on the southern edge of the steps which children could crawl under. There is also no easy access to the jumping location as a jumper must first climb over or under the handrail. Additional control for these risks could be to replace the balustrade and provide a pool-type gate for the jumping area. Lifeguards providing support over the summer months would also help to reduce the water safety risks. There are security guards active over the summer months who can help with general behaviour but will not be specifically trained in water safety.

Currently, the Wynyard Crossing bridge handrail can be climbed as the rails have been placed horizontally. This allows for climbing and jumping from the bridge into the marina navigation channel. Controls such as lane ropes to mark off the swimming area are currently used and also no jumping signs. Additionally, security guards manage the area and will police the no jumping rule when required. An additional control would be to retrofit the balustrade to be non-climbable and further dissuade jumping as an activity from that location.

Other risks exist such as slips and trips causing injuries and cuts and scrapes from the concrete and potentially oysters growing on the steps. These can be controlled by regular maintenance of the area to ensure that it is free of oysters and not slippery. There is a maintenance programme in place to control these risks.

4.0 Conclusions

Risks and controls presented above will be considered by Eke Panuku when considering waterfront swimming locations and activity opportunities. Some further work will be required to fully investigate risks like water quality and others that may be developed further around the specific locations during a detailed design study if required.

Risks and controls will be considered in conjunction with costs for implementation in further decision-making to ensure acceptable risk levels and cost-effective solutions are reached.

Once the short-listed options have been determined the risk registers for those options will be scored. The scoring will then allow a decision to be made on the risk appetite of Eke Panuku to the risks based upon the controls that could be applied to that risk.

Karanga Plaza presents some immediate risks for both water quality and swimming-related incidents. These can be managed by controls to lower risk levels but there will always be some level of risk present to swimmers. Additional controls are available that can further reduce risk levels.

Appendix A – Detailed risk registers for Karanga Plaza and the long list of locations

Memorandum

27 September 2022

To: Eke Panuku

CC: Craig Mcilroy – General Manager Healthy Waters, Nicholas Vigar, Head of Planning, Nick Brown – Regional Planning Manager, Darryl Thompson - Principal Specialist Health Enforcement

Subject: **Provisional water quality assessment for Karanga Plaza**

From: Martin Neale – Independent Scientist, Holly Foreman - Safeswim Principal

Purpose

1. To provide an assessment of the available water quality information for Karanga Plaza (Viaduct Steps) to inform management of the site for water-based recreation (swimming and jumping).

Summary

- Safeswim is a partnership programme providing real-time science-based advice on the level of risk associated with swimming at specific locations. Safeswim allows users to make informed decisions on when and where to swim.
- The Safeswim programme has routinely sampled water quality at Karanga Plaza since June 2018. Additional support from Eke Panuku since 1 September 2022, is facilitating more frequent sampling which is expected to occur over a total of three months in the build up to the 2022/23 summer.
- The routine sampling measures a type of bacteria (enterococci) in the water to allow comparison with the swimming guidelines published by the New Zealand Government. The additional sampling currently underway is also measuring hydrocarbons in the water to provide insight into whether hydrocarbons pose a health risk for water-based recreation.
- At the time of writing, the full dataset for enterococci testing consists of 97 samples collected between 8 June 2018 and 23 September 2022. A water quality assessment based on the full dataset indicates Karanga Plaza has had chronic water quality issues, including multiple occasions with high bacteria concentrations in dry weather.
- However, the results since July 2021 indicate a substantial improvement in water quality, which maybe linked to the relocation of the Daldy Street stormwater outfall. 43 samples have been collected since July 2021 and only two samples have exceeded the swimming guideline, both of which were collected following large rain events.
- Hydrocarbon sampling has been undertaken on eight occasions since 1 September 2022, with results from the first six samples available at the time of writing. All of sample results were below recreation guidelines published by the World Health Organisation. It should be noted this is a very small dataset and ongoing sampling is scheduled to provide greater certainty that hydrocarbons do not pose a health risk.
- The risk associated with hydrocarbon contamination is difficult to quantify. It is episodic and may require some additional measures, such as signage to mitigate the risk.

- The available water quality data since July 2021 does not allow a full assessment of the site consistent with the New Zealand and World Health Organisation guidelines, however a provisional assessment of the available data indicates that the site generally meets the swimming guideline in dry weather and after low rainfall (<5mm in 24 hours). Water-based recreation under these conditions should pose a low risk (<2%) of illness based on the New Zealand guidelines.
- Few samples have been collected at higher rainfall levels, so it is advised that people do not enter the water after more than >5mm rain in 24 hours as the risk of poor water quality, and associated health risk, increases under these conditions.
- There is currently insufficient data to create a Safeswim site at this location.

Context

2. Safeswim is a joint initiative between Auckland Council, Northland Regional Council, Watercare, Surf Life Saving and Auckland Regional Public Health Service that provides the public with information about the risks associated with water-based recreation.
3. A core part of the Programme is monitoring and assessing water quality to allow health risk assessments based on guidelines published by the New Zealand Government and the World Health Organisation. Consistent with these guidelines, the routine monitoring and assessment for marine water is based on the concentration of enterococci (a type of bacteria) in the water.
4. The Safeswim programme has routinely sampled water quality at Karanga Plaza since June 2018, with more comprehensive sampling since 1 September 2022 in collaboration with Eke Panuku. This additional sampling has involved greater frequency of sampling, but also an increase in scope to include sampling for hydrocarbons due to reports of sheens and odours in the area around Karanga Plaza.
5. The greater interest in water quality at Karanga Plaza, and other waterfront locations, has arisen from an Eke Panuku initiative to investigate opportunities for water-based recreation in and around the Viaduct Basin. Understanding any water quality issues at Karanga Plaza is a priority as it is already used for recreation and Eke Panuku are considering management options for the site for the forthcoming summer.
6. Therefore, the purpose of this memorandum is to provide an assessment of the available water quality information for Karanga Plaza to inform management of the site for 2022/23 summer.

Discussion

Water quality monitoring results

7. Sampling for enterococci has occurred at Karanga Plaza as part of the Safeswim Programme since 2018 and the full dataset consists of 97 samples collected between 8 June 2018 and 23 September 2022.
8. A water quality assessment based on the full dataset indicates Karanga Plaza has had chronic water quality issues, including multiple occasions with high bacteria concentrations in dry weather or after low rainfall (<5mm in 24 hours). Grading the site based on the full dataset produces a 'D' grading, which equates to a greater than 10% risk of illness from swimming in the water.
9. However, the results since July 2021 indicate a substantial improvement in water quality, which may be linked to the relocation of the Daldy Street stormwater outfall ahead of the America's Cup.
10. The water quality results before and after July 2021 clearly show an improvement in water quality (Table 1). In summary:
 - 43 samples have been collected since July 2021 and only two samples (or 5% of samples) have exceeded the swimming guideline, both of which were collected following large rain events;

- This compares with 54 samples collected before July 2021, of which 17 samples (or 32% of samples) exceeded the swimming guideline.

Table 1. Summary of enterococci monitoring results for Karanga Plaza (enterococci units MPN/100mL; swimming guidelines = 280 MPN/100mL)

Date range	Number of samples collected	Number of samples that tested above the guideline	Percent of samples that tested above the guideline	Minimum test result	Maximum test result	Mean test result
Full dataset	97	19	19.6%	10	10,000	512
Pre-July 2021	54	17	31.5%	10	10,000	795
Post-July 2021	43	2	4.7%	10	3,255	140

- Concerns were raised about the presence of hydrocarbons in the water at Karanga Plaza based on reports and observations by council staff. To evaluate whether hydrocarbon levels at the Plaza pose a health risk for water-based recreation, sampling was undertaken to test for the hydrocarbons for which the World Health Organization have published guideline values (Table 2).
- Testing of hydrocarbon concentrations in the water at Karanga Plaza have been carried out on a small number of occasions since 1 September 2022. At the time of writing, results for six sampling occasions are available and all results are below the laboratory limits of detection and hence well below World Health Organisation guidelines for recreation (Table 2).
- It should be noted this is a very small dataset and ongoing sampling is scheduled to provide greater certainty that hydrocarbons do not pose a health risk.

Table 2. Summary of hydrocarbon monitoring results for Karanga Plaza (all units mg/L)

Date	Benzene	Ethylbenzene	Toluene	Xylene
1/09/2022	<0.0001	<0.0001	<0.0001	<0.0002
2/09/2022	<0.0001	<0.0001	<0.0001	<0.0002
5/09/2022	<0.0001	<0.0001	<0.0001	<0.0002
8/09/2022	<0.0001	<0.0001	<0.0001	<0.0002
12/09/2022	<0.0001	<0.0001	<0.0001	<0.0002
15/09/2022	<0.0001	<0.0001	<0.0001	<0.0002
WHO guideline for recreation	0.2	6	14	10

Health risk assessment

- Safeswim does not yet have sufficient data to re-grade the site following the relocation of the stormwater outfall, but sampling will continue to allow this in the future.
- In the interim, a provisional assessment of the available data indicates the site generally meets the swimming guideline in dry weather and after low rainfall (<5mm in 24 hours). Water-based recreation under these conditions should pose a low risk (<2%) of illness based on the New Zealand guidelines.

16. Few samples have been collected at higher rainfall levels, so it is advised that people do not enter the water after more than >5mm rain in 24 hours as the risk of poor water quality, and associated health risk, increases under these conditions.

Hydrocarbon contamination

17. The ongoing risk around contamination from hydrocarbons at Karanga Plaza is difficult to assess. The phenomenon of oil sheen is reported periodically in this area, generally after rainfall events.
18. The oil is currently thought to be associated with the large stormwater outfall at the end of Madden St, although it may potentially come from other smaller stormwater outlets as well.
19. The issue of the oil has been investigated by operational and compliance teams within council on multiple occasions to understand its origin. The current understanding is that it stems from the groundwater in this area, which is known to be contaminated by hydrocarbons and poly-aromatic hydrocarbons (PAHs), as a consequence of its historic land-use.
20. Healthy Waters Operations currently deploys oil-absorbent booms around the Madden St stormwater outfall to remove as much oil as possible, however these do not remove all of the oil, and oil sheens are still periodically reported in this area. These appear to be associated with large rainfall events and may persist for several days after rainfall.
21. Healthy Waters is investigating whether some form of oil capture can be placed back within the stormwater network, however the tidal nature of this stormwater outfall makes this a difficult undertaking, and the feasibility or effectiveness of this is not currently well understood.
22. The present risk around hydrocarbons in the stormwater discharges will certainly persist for the 2022/23 swimming season.
23. It should also be noted that there are other potential marine sources of hydrocarbon contamination (e.g. diesel) due to boat activity in this area. The elevated risk of hydrocarbons from all sources may warrant further measures at Karanga Plaza. Signage to alert the public to look for and avoid this periodic phenomenon might provide a means of mitigating this risk to some degree.

Next steps

24. Increased monitoring activity will continue ahead of the 2022/23 summer.
25. The Safeswim team will undertake a full grading of the site when the dataset is of sufficient size.
26. The Safeswim team will continue work to include Karanga Plaza on the Safeswim website, including the development and testing of water quality models for the site.
27. Healthy Waters will provide an update to Eke Panuku in early 2023 regarding the likely feasibility of future hydrocarbon capture interventions in the stormwater network.

Attachment E - Navigation bylaw 2021 exemption

From: Erica Su
Sent: Thursday, 29 September 2022 2:57 pm
To: Jacob Marshall; Jayson Maud; Paul Brown
Subject: FW: Navigation Bylaw 2021 Exemption

From: Andrew Hayton (AT)
Sent: Thursday, 29 September 2022 2:31 pm
To: Erica Su
Cc: Christiaan Moss (AT)
Subject: RE: Navigation Bylaw 2021 Exemption

Hi Erica,

As long as the swimming/bathing is within the boomed area and swimmers are not able to swim where vessels are manoeuvring and vessels are not able to navigate where people are swimming/bathing, then I don't believe any exemption is necessary.

Sorry, I cannot make this afternoons meeting.

Regards

Andrew

From: Erica Su
Sent: Thursday, 29 September 2022 11:51 a.m.
To: Andrew Hayton (AT)
Cc: Christiaan Moss (AT)
Subject: RE: Navigation Bylaw 2021 Exemption

Thanks Andrew for your quick response. Are we able to seek an exemption for the general public use instead? Or does the exemption has to be issued to each individual carrying out the swimming activity?

We have a meeting to discuss this matter at 2:30 this afternoon on Teams let me know if you might be available to join.

Ngā mihi | Kind regards

Erica

From: Andrew Hayton (AT)
Sent: Wednesday, 28 September 2022 3:14 pm
To: Erica Su ; Christiaan Moss (AT)
Subject: RE: Navigation Bylaw 2021 Exemption

Hi Erica,

Thanks for the message.

If you are referring to the boomed off section of the plaza at the steps that have been used for swimming for many years, we see no need to issue an exemption as there is no possibility of conflict between bathers and vessels due to the existence of the boom.

Even if we did see fit to issue an exemption, the onus not to swim is on the individual , so we would probably have to issue exemptions to each individual swimmer rather than Panuku.

Regards

Andrew

From: Erica Su
Sent: Wednesday, 28 September 2022 2:25 p.m.
To: Andrew Hayton (AT) ; [Christiaan Moss \(AT\)](#)
Subject: Navigation Bylaw 2021 Exemption

Hi Andrew and Christiaan

I am writing to you with some urgency with regards to enabling swimming in the waterfront, and in particular, at Karanga Plaza. As we have discussed, swimming at that location does not comply with clause 22 of the Navigation Bylaw 2021. I'm hoping to discuss with you whether we can seek an exemption to that clause via an approval process to enable this.

Ngā mihi | Kind regards

Erica Su
Senior Planner, Planning & Consents



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