NAPIER
CITY COUNCIL
Te Kaunihera o Ahuriri

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# FUTURE NAPIER COMMITTEE

# Open Attachments (Under separate cover 1)

| | |
|---|---|
| Meeting Date: | Thursday 16 May 2024 |
| Time: | Followng Sustainable Napier Committee |
| Venue: | Chapman Room<br>Level 1, Chapman Pavilion<br>Latham Street<br>Napier |

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*22.09*

# *AHURIRI WAKA HOURUA HUB*

NAPIER CITY COUNCIL
*Te Kaunihera o Ahuriri*

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## Design Brief
version 2
December 2022

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Ahuriri Waka Hourua Hub
**Design Brief**
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**TE MOANANUI A KIWA - WAKA VOYAGING EXTENTS*

# 1. INTRODUCTION

Ahuriri Waka Hourua Hub
**Design Brief**
version 2
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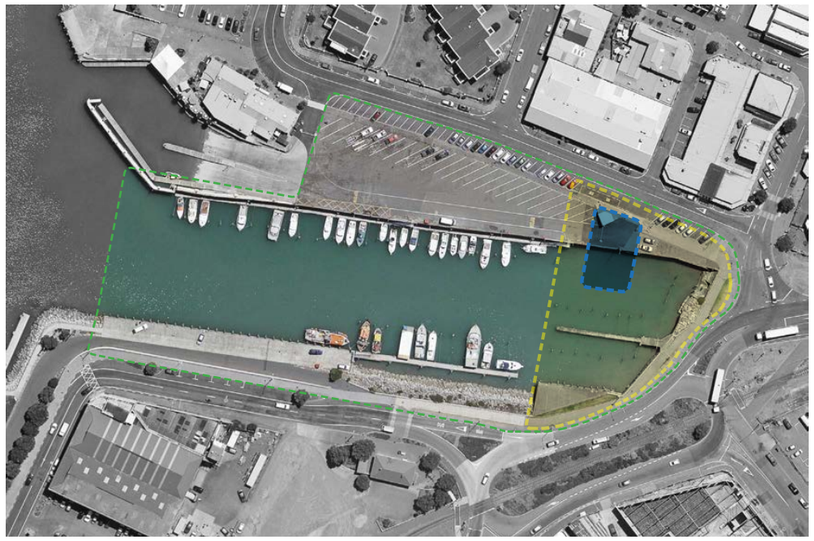
## 1.1 Purpose of the Document

This Design Brief for the Ahuriri Waka Hourua Hub builds from the 2015 Napier City Vision Framework, 2018 Ahuriri Estuary & Coastal Edge Masterplan, and the 2021 Napier Inner Harbour Development Plan.

This brief is founded on the intention to create a world class base and destination for waka hourua that is accessible, visible, and a public place for learning about waka open ocean voyaging and celestial navigation kaupapa, as well as the ecology, culture and environment of the Ahuriri inner harbour, and linking to Moananui a Kiwa. The programme, spatial requirements, and schedule of accommodation to achieve this are described in this brief.

This provides a basis for the procurement of a design team and commencement of concept design of a pavilion and associated waka hub (the public realm in consideration of the wider Iron Pot Basin). It supports the Napier City Council to meet their governance role in deciding with partners what will be provided, minimum requirements, and the priorities for delivery in line with the funding sources for the project.

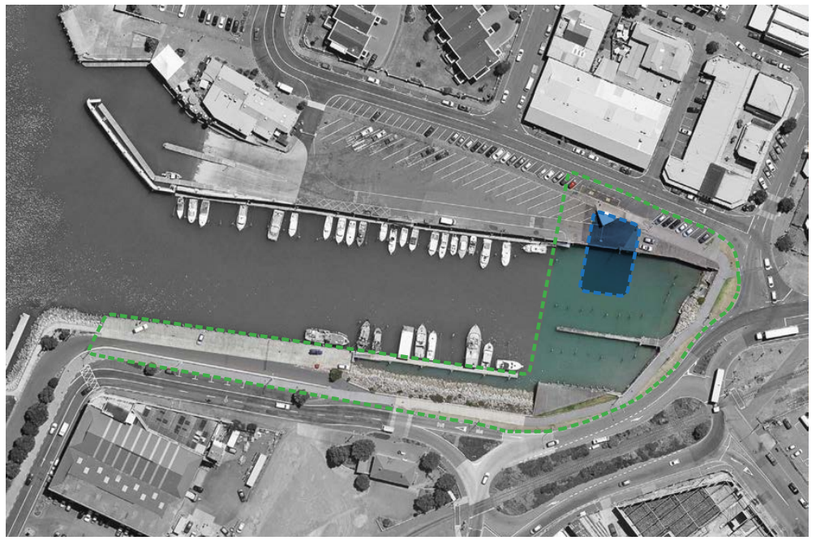


**Project Scope Diagram**

- Concept - Initial Area of Consideration
- Waka Hub & Pavilion - Scope of Design Work
- Pavilion (Scale and Location TBC)

## 1.2 Scope

This Design Brief describes the requirements and schedule of accommodation for a Pavilion and Waka Hourua Hub  the Iron Pot Basin.



**Funding Scope Diagram**

- Potential Scope of Public Realm Work
  Scope of “Better Off” funding
- Pavilion (Scale and Location TBC)
  Scope of MBIE Funding

# 1. INTRODUCTION

Ahuriri Waka Hourua Hub
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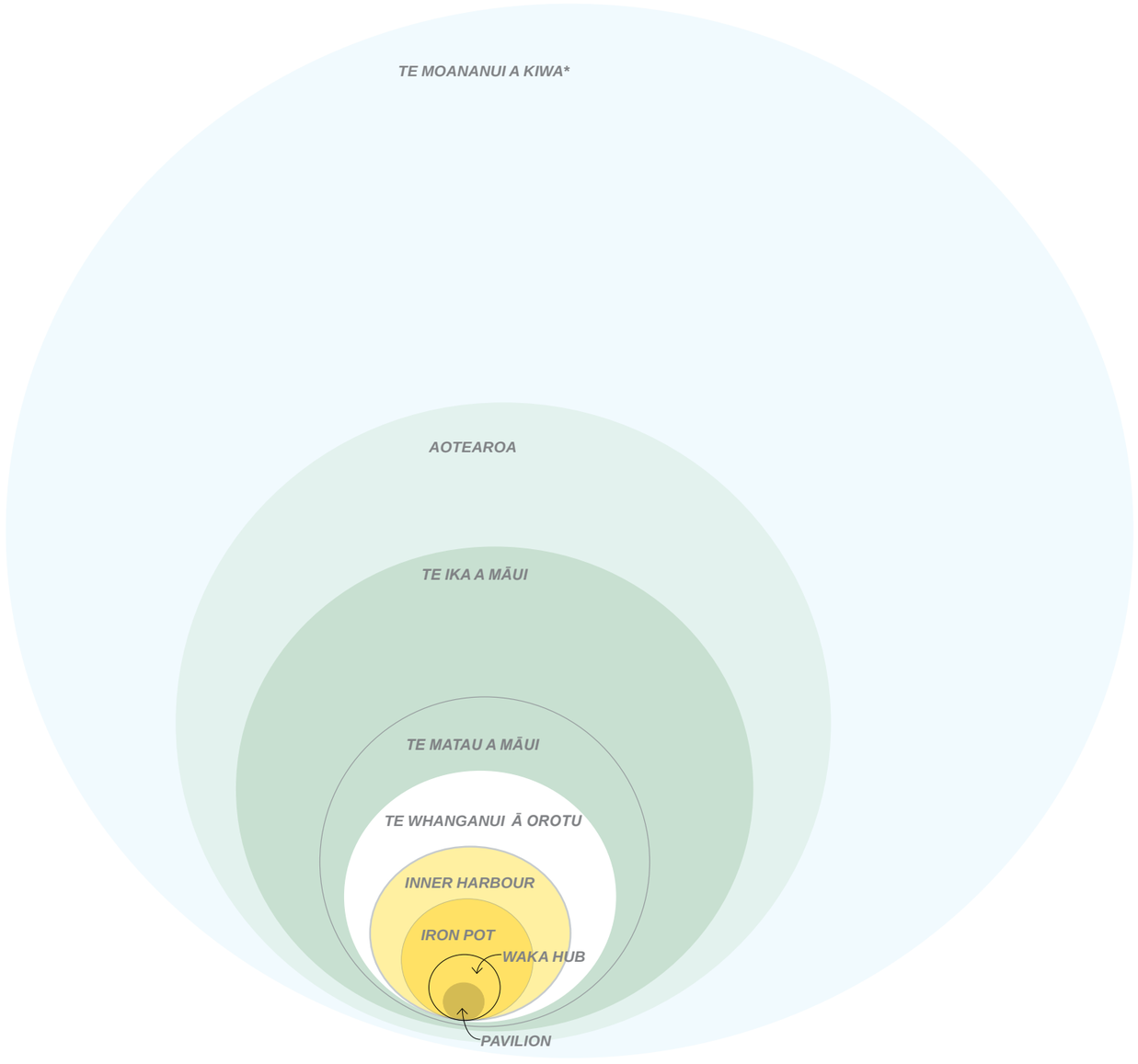
The diagram to the right illustrates the nested connection through *Te Matau a Māui* of the Pacific - Te Moananui a Kiwa - to the proposed Waka Hub and Pavilion.

The Manu Rere Moana (Pacific Voyagers) exhibtion at Te Papa is a precedent and inspiration for the waka hub to be a public place for learning about waka open ocean voyaging and celestial navigation kaupapa

*Manu Rere Moana (Pacific Voyagers), Te Papa*



# 2. PARTNERSHIP, STRATEGY, COLLABORATION AND ENGAGEMENT

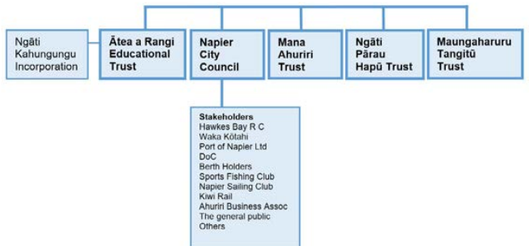


## 2.1 Partnership Vision

It is the intention that the Ahuriri Waka Hourua Hub project is:

A strong, collaborative, and enduring partnership between Ātea a Rangi Educational Trust, Napier City Council, Ngāti Pārau Hapū Trust, Mana Ahuriri Trust, and Maungaharuru Tangitū Trust.

[partnership agreements and/or details to be confirmed between parties along with ownership/service model]




*Partnership Diagram*

## 2.2 Inner Harbour Strategic Vision

The 2021 Napier Inner Harbour Development Plan states the following principles:

- A water-based recreation destination
- A public harbour edge
- A working wharf and marina environment
- Authentic character and identity
- A rich cultural landscape/narrative
- A resilient inner harbour
- A healthy marine environment
- An efficient high amenity port route

In addition to this, the Ahuriri Waka Hourua Hub project intends to create:

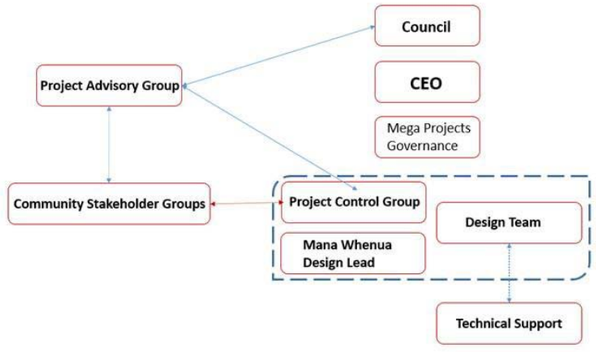
- A place of education, for learning of waka voyaging kaupapa and the culture, ecology, and environment of the Ahuriri inner harbour and its relationship to the wider Pacific Ocean

## 2.3 Partner Collaboration Process

The shared partnership vision for the Ahuriri Waka Hourua Hub project a *strong, collaborative, and enduring partnership between Ātea a Rangi Educational Trust, Napier City Council, Ngāti Pārau Hapū Trust, Mana Ahuriri Trust, and Maungaharuru Tangitū Trust.*

The project initiation and brief development process has to date included extensive input from representatives of all the partners. This has included an introductory hui with mana whenua representatives from Ngāti Pārau and Maungaharuru Tangitū on the 18th of October, facilitated by NCC and Te Waka Rangapū, and an introductory hui with Ātea a Rangi also on the 18th of October led by Napier City Council. Two primary collaborative wānanga led by Athfield Architects and Mana Whenua Design Lead Israel Birch were held on the 22nd of November and 12th of December 2022. The November wānanga began with a Hīkoi, walking the site and surrounding area, listening to the names, features, and histories, and a visit to the waka hourua Te Matau a Māui before a visioning session nearby. These hui were attended by representatives of key partners including Ātea a Rangi, Mana Ahuriri, Maungaharuru Tangitū, Ngāti Pārau Hapū Trust, and Napier City Council

A governance structure has been defined by NCC that enables the collaboration envisaged in the partnership vision. This is contained in the appendix and outlines the reporting and approvals process for the project.

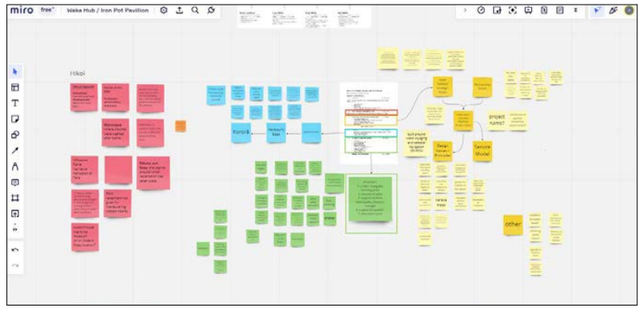



*Governance Structure*

In the concept design phase Israel Birch will lead a small working group of artist practitioners to develop the artwork and cultural foundation for the waka hub and pavilion. This group will contain key knowledge holders and creatives, and initially provide concept design advice to be included in a Cultural Foundation Report. This will include a summary of the process and design development to date, kaupapa proposed to inform the built response, and identification of opportunities for the representation of important mātauranga to be integrated into the waka hub and pavilion through artwork, architecture, landscape and interpretation.

## 2.4 Community Engagement

A draft stakeholder engagement plan has been developed upon commencement of concept design this will be reviewed and finalised.




*partner visioning session Miro Board (Digital Collaboration Tool)*

# 3. PROJECT VISION AND OBJECTIVES



## 3.1 Project Vision

- A place of education that facilitates the sharing and celebration of mātauranga related to celestial navigation and waka voyaging throughout Moananui a Kiwa.
- A home base for the waka Te Matau a Māui and its crew.
- An international site for ocean that connects Moananui a Kiwa to Te Ika a Māui, Aotearoa, their communities, and their shared histories.
- A place to prepare waka and, embark, and disembark waka hourua.
- A place for celebration, welcomes, farewells and to host manuhiri from both land and sea.
- An open and inviting public place of amenity for all, and for occasions both formal and informal.
- A place that respects, represents, and acknowledges its location, landscape, whakapapa, and its people, particularly Ahuriri, and ngā hapū of Ahuriri.
- A place that enhances the marine and coastal environment, and educates about it in the process.
- An educational sister site to Ātea a Rangi at Waitangi Park, with a practical waka voyaging based kaupapa that complements the celestial teaching focus of Ātea a Rangi.
- A Waka Hub and Pavilion that integrates with the Ātea a Rangi Educational Trust Mobile App

*Ātea a Rangi at Waitangi Park*

## 3.2 Design Values / Principles

- Mana, a place to be proud of.
- Mahi Toi - Whole facility re-inscribes iwi and waka navigation kaupapa with toi moana, including multi-layered levels of learning imbedded in the landscape, structures and artwork.
- Inclusive, accessible and inspiring for all ages and levels, both for the novice and for advanced crew learning.
- Whakapapa - connects through naming sites with traditional names
- Open and welcoming, to the public, and enduring community destination.
- Mauri Tū – enhancing the marine and coastal environment
- Collaborative approach with Ātea a Rangi Trust, waka experts and mana whenua to ensure absolute authenticity.
- Taiao – bring natural elements back into the inner harbour
- The waka is a key client
- Transformative - a catalyst for change in the inner harbour
- A high level of craft and development, led by, and befitting of Te Matau a Māui, Ātea a Rangi Educational Trust and its leaders.
- Kaitiakitanga - Sustainable - efficient, innovative, environmental and demonstrative

## 3.3 Minimum Requirements

Section 5 Programme and Spatial Requirements describes the aspirations, attributes and considerations for spatial components of the pavilion and waka hub. Minimum requiremenst (“Must Haves”) and additional “Nice to Haves” of these are as follows:

**Must Haves:**

1. a safe / navigable berthing point
2. security of waka
3. public facing support facilities (toilets, showers)
4. public facing education space / community room
5. a space for powhiri + tikanga

**Nice To Haves**

6. waka hourua dedicated spaces (briefing room, breakroom, storage)

Section 6 - Schedule of Accommodation lists the anticipated Gross Floor Areas of the spaces that are in the pavilion. The Schedule identifies the specific “Must Haves” and the “Nice to Haves” spaces, idetified above.

## 3.4 Sustainability

Sustainability is a key part of the vision for the waka hub and pavilion. The agreed design principles including Kaitiakitanga, Taiao, Mauri Tū will guide the project’s sustainable outcomes along with an aim for structures to be as close to net zero carbon as possible. The intention is for this to be a place that enhances the marine and coastal environment, educating about it in the process

The project aspires to improve the health of the marine environment through alignment with the values of the cultural monitoring framework developed in partnership between mana whenua hapū and Napier Port to monitor the health of the marine environment in and around the Ahuriri/Napier area.

The waka hub and pavilion will have embedded resilience and energy efficiency, investigating opportunities for onsite power generation, water reuse and zero waste methodologies as part of the Concept Design stage. In the public realm sustainability will be a key consideration also, with a preference for low water use native plantings and a landscape that facilitates sustainable management.

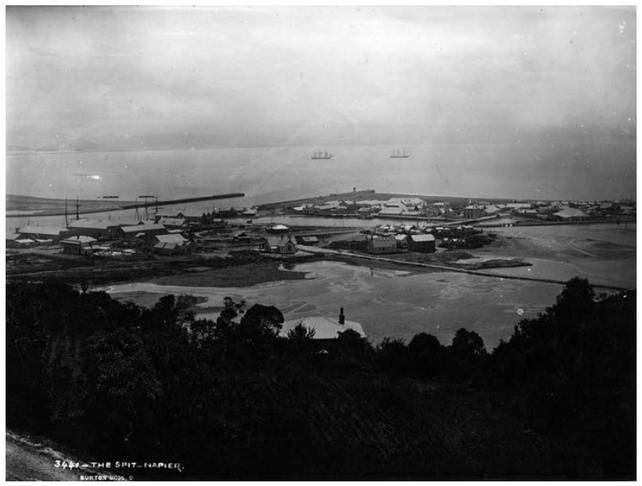
# 4. PROJECT SITE
# SITE CONTEXT



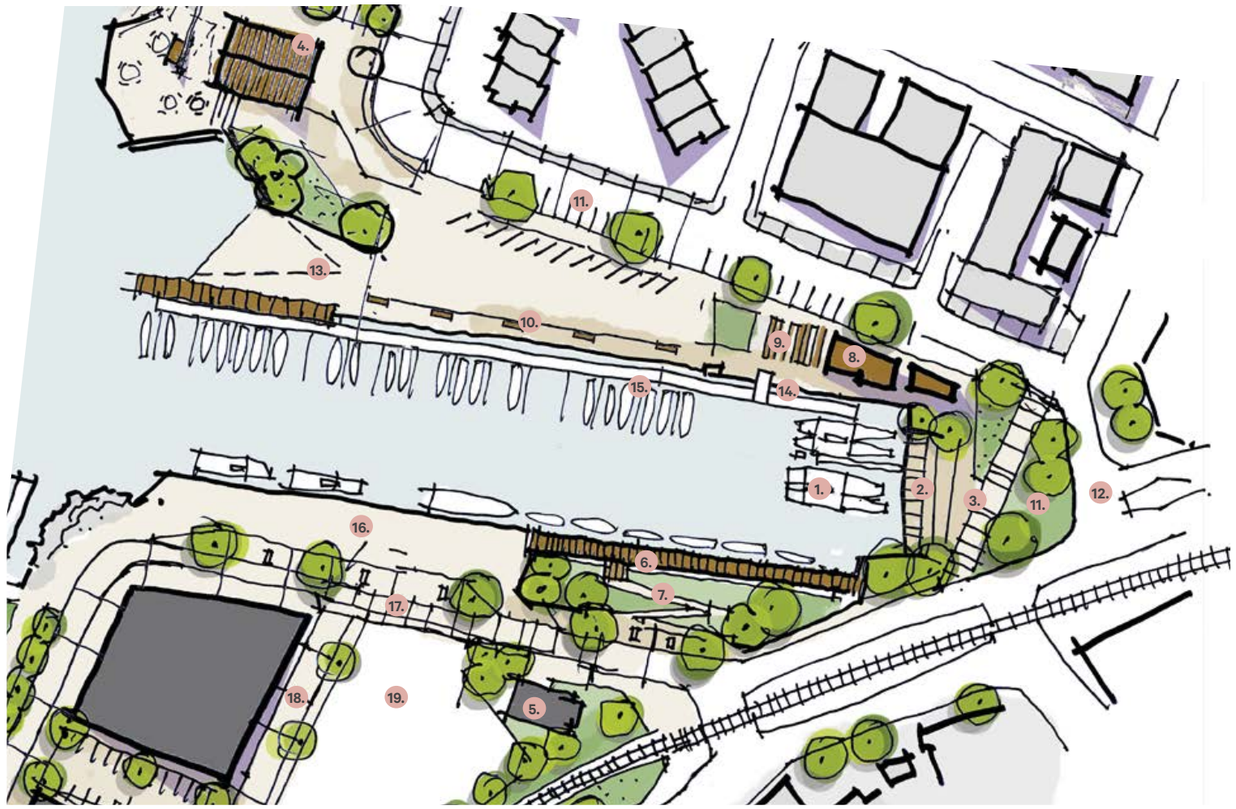
## 4.1 Site Context

The pavilion and waka hub is to be located in the Iron Pot basin – the plan to the right (from the 2021 Napier Inner Harbour Development Plan) describes the masterplan for this area and the anticipated future context.

The photo below shows the context in 1868 – 1898 with the Iron Pot forming the 'handle' to an inland lagoon, which was lost as a result of uplift in the 1931 Napier earthquake.




*1868 - 1896 context photo (The Spit, Napier)*




*extract from 2021 Napier Inner Harbour Development Plan*

1. Purpose-built pontoon mooring
2. Seating terraces, new seawall beneath
3. Karanga plaza space
4. New club, cafe & community building
5. Old Customhouse
6. New boardwalk connection
7. Ramped access
8. New pavilion & toilet facilities
9. Nelson Quay public space.
10. Balustrade & seating elements to restrict access to edge
11. Stormwater treatment raingardens
12. Mechanical stormwater treatment beneath.
13. Existing boat ramp retained, end terraces replace current seawall
14. New access point and ramps
15. New recreation mooring pontoon
16. Existing Discharge Wharf
17. One-way Customs Quay
18. New public laneway
19. Mana Ahuriri settlement site

# 4. PROJECT SITE
# WHARF CONDITION



## 4.2 Wharf Condition

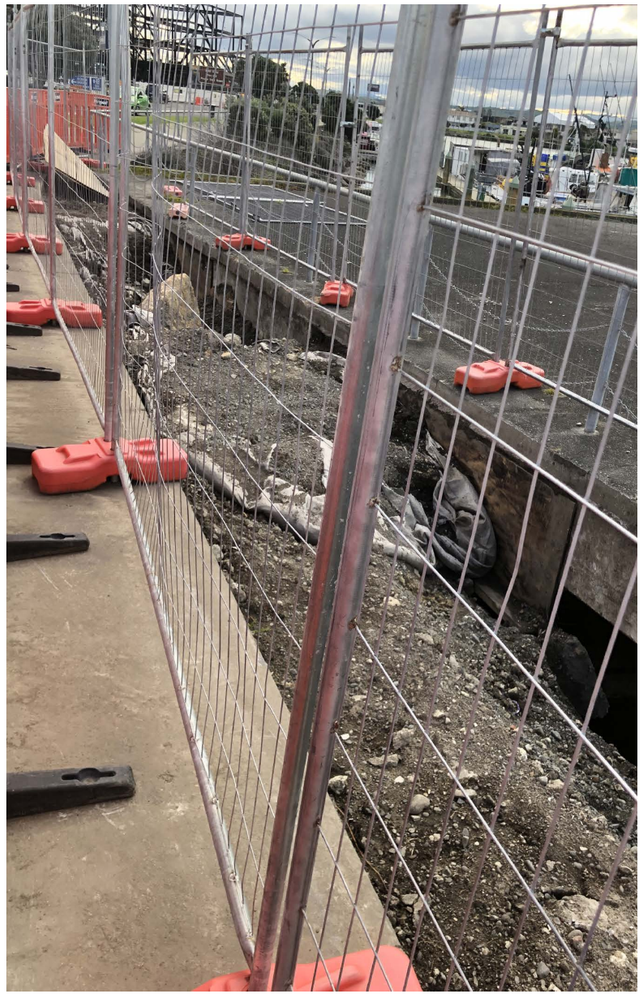
The aged and dilapidated reinforced concrete seawall structures located along the eastern shoreline of the Iron Pot Basin and the former Jull Wharf, in the Ahuriri Inner Harbour, Napier are in a state of failure. Chloride ion induced failures of the reinforced concrete structures and subsequent tide and wave erosion wash-out of retained fill through the damaged walls is understood to have caused substantial voids, subsidence and lateral ground movement that are placing the state highway behind at risk.

**Jull Wharf**
The existing Jull Wharf features an ageing reinforced concrete pile, beam and deck structure with timber walers which retains what appears to be stacked stone and earthquake rubble backfill. The area adjoining Jull Wharf retaining the material parallel to State Highway 50 comprises concrete panels.

Deterioration and damage to the existing wharf and timber walers means the whole structure is now unsafe. The timber walers and the stacked stone walls are failing. Backfill from behind the wharf is now collapsing through voids in the timber waler retention system, threatening the integrity and safety of adjoining pedestrian and road routes.

The Jull Wharf area requires urgent attention and is therefore the focus of Stage 1 emergency works which will begin in early 2023. These works have been designed by WSP and the methodology by Brian Perry Civil with a focus upon minimising any limiting effect on Stage 2 works. Drafts of this design are included in the Appedicies.

**Nelson Quay**
The Existing Nelson Quay is also in a poor state. Design solutions for the pavilion and waka hub will need to consider and allow for the stability of all sea walls and marine structures and land stability generally.



*recent (2022) photos of the Jull wharf*

# 5. PROGRAMME AND SPATIAL REQUIREMENTS



This Programme and Spatial Requirements section describes the Aspirations, Attributes and Considerations (for Concept Design) of the spaces / components of the pavilion and waka hub. Section 3.3 Minimum Requirements identifies which of these are “Must Haves” and those that are “Nice to Haves”.  Subsequently a Schedule of Accommodation lists proposed areas of both the Must Have and Nice To Have internal spaces.

## 5.1 Community Space

**Aspiration**

- A flexible, multi-purpose space for hosting groups and manaaki of:
  - The wider community
  - School classes
  - Rōpu
  - Waka māutauranga
- Light repairs of larger pieces of waka equipment

**Attributes**

- capacity for 30 - 60 pax (2 x school classes - Sizing based on MOE guidance on large classroom size)
- power, data and AV facilities within space
- secure after-hours access by the community with access to public toilets and AV facilities
- tea / coffee making facilities within space or adjacent.

**Considerations**

- arrangement and planning to support tikanga of meals in space
- layers of learning within space - basic level, QR codes, Wananga
- enclosed space or Fale structure with open sides?
- would sleeping occur in the space on occasion?

*a fale structure may be appropriate for the Community Space*

## 5.2 Waka Hourua Dedicated Spaces

### 5.2.1 Waka Hourua Briefing Workroom

**Aspiration**

- A securable open-plan workroom for Ātea a rangi staff/crew that can be used for briefings and be used for private meetings.

**Attributes**

- Facilities for crew briefing (white board etc...)
- workbench (for carpentry)
- secure lockers for use by staff
- it should be a pleasant space with natural light and ventilation

**Considerations**

- the Briefing Room should be positioned to provide good overview of primary entrances, the wharf / pontoon, ideally with some oversight / awareness of land side external areas also.
- the area of the room shall be design tested to optimise its size

*layers of learning precedent - Manu Rere Moana (Pacific Voyagers), Te Papa*

### 5.2.1 Waka Hourua Breakroom

**Aspiration**

- A space for respite for Ātea a rangi staff/crew, with food preparation equipment. Facilities to be used for food preparation for events in the Community Space and / or Public Realm

**Attributes**

- it should be a pleasant space with natural light and ventilation
- kitchenette/sink/microwave/fridge/dishwasher
- appropriately sized work surfaces for preparation of food for events in the Community Space and Public realm.
- sized to accommodate/seat 6pax
- a first aid cupboard and defibrillator
- secure lockers will be provided for staff belongings
- oversight / adjacency of Community Space and where possible external spaces

**Considerations**

- cooking equipment requirements to be confirmed

### 5.2.2 Drying / Store Room

**Aspiration**

- a secure drying and storage area for waka hourua equipment.

**Attributes**

- secure storage - sails bags, oils, paints - ventilated etc....
- wash down area & drying area (lifejackets etc... rather than sails)
- not in sun (no UV) - lots of shelving

# 5. PROGRAMME AND SPATIAL REQUIREMENTS



## 5.3 Support Facilities

### 5.3.1 Toilets

- Public Toilets – Externally accessed public toilets. 3 x Gender neutral accessible toilets (All individual cubicles with own wash and basin) to enable flexibility of toilet use demand.

  Note – based upon NZBC Toilet Calculator (G1/AS1) this toilet provision is adequate for 60 pax (Community Room capacity) as a 'club room' (90 pax max) or 'school' (70 pax max)
- Waka Hourua Dedicated Toilet - A single accessible toilet will be provided for staff use only. This might be used as a backup for the public toilets if necessary and planning allows

  Note – based upon NZBC Toilet Calculator (G1/AS1) this toilet provision is adequate for 5 pax for 'staff facilities'
- Conveniently located but not visibly close to welcoming and Community Room areas.

### 5.3.2 End of trip facilities

- Showers (accessed by those with a key) – Externally accessed showers. 2 x Gender neutral accessible showers (All individual cubicles) to enable flexibility of use. It is assumed that these can also be used by waka hourua staff / crew.
- Conveniently located but not visibly close to welcoming and Community Room areas.

### 5.3.3 Cleaners Sink / Store

- Separate Cleaners stores for the Public Toilet / Shower facilities and Waka Hourua dedicated spaces and Community Room. This enables flexibility of management and responsibility of cleaning of the facility.

### 5.3.4 Building Services

- Discrete and well planned space for Data/Comms, Security, MSB, HWC, PV Battery etc

### 5.3.5 Rubbish / Recycling Room

- Externally accessed rubbish / recycling room with adequate ventilation
- Conveniently located but discrete and screened.

### 5.3.6 Parking

- consideration of Bus Parking area for group drop off / pick-up
- loading zone
- it is assumed that there is no dedicated Ātea A Rangi / Te Matau a Māui vehicle parking
- Trailer parking on Nelson Quay will be retained.

*precedent - terraced gathering space, Blenheim*

## 5.4 Public realm

**Aspiration**

- The Public Realm should immediately welcome all to the Waka Hub from both sea and land and clearly convey the spirit and Kaupapa of the facility. The public realm will integrate blue, green and hard components with terraces that connect the land to the water. These external spaces provide the mat on which the pavilion sits, supporting an extension of indoor / outdoor activities programmed by the pavilion. These open spaces support the functions of the pavilion and be flexible to host events, enable formal ceremonies and powhiri, and support informal use and smaller gatherings.

**Attributes**

- welcome from both land and sea
- universally accessible
- accommodate multiple waka (pontoon 1m above water surface for waka accessibility)
- secure floating pontoon for waka security / controlled access
- generally open and accessible to public
- shelter for groups from sun and rain
- exterior amphitheatre or seating terraces to facilitate group teaching (under cover?)
- enabling of cultural expression, tikanga and reflective of Ahuriri and its mana whenua
- laid out to ensure protocols / tikanga are observed to enable powhiri and mihi whakatau on occasion
- safe and welcoming to all people and to residents and visitors alike with both a day and night time personal safety and climatic comfort level
- sheltered edges and good shade
- an extension of the Community Room and Waka Hourua dedicated spaces
- WIFI in the space
- excellent lighting

**Considerations**

- careful consideration of how the public realm functions when the pavilion is closed / dark is required.
- shade sails – for shade and external presence of purpose
- Hangi pits / Umu in the landscape
- stability of all sea walls and marine structures
- land stability
- movement, circulation and access – State Highway and rail requirements, marine-related movement and parking, commercial and residential vehicle requirements, walking and cycling etc
- safety for all users, 24/7, 365
- ecology – terrestrial and marine

# 6. SCHEDULE OF ACCOMODATION



This Schedule of Accommodation lists proposed areas of the internal spaces described in section 5. Both the “Must Have” and “Nice To Have” internal spaces (refer Section 3.3 Minimum Requirements) are listed. Testing of these area allowances and opportunities for multiple use, optimisation and rationalisation will be undertaken in the concept design stage.

**PUBLIC FACING**
("must haves" - items which meet NCC funding application requirements)

| Function | | | Area (m2) | Notes |
|---|---|---|---|---|
| **Community Space** | **Subtotal** | | **90** | |
| | Multi-purpose Space | | 90 | area based on MOE large classroom size, may be Fale (unenclosed) |
| **Public Toilets** | **Subtotal** | | **35** | |
| | Public End of trip facilities | | 12 | Externally accessible shower facilities - Unisex, 2no |
| | Public Toilets | | 18 | Unisex: 3 x toilet W/C accessible (adequate for 60 pax 'school' or 'club room') |
| | Cleaners store/sink | | 5 | Cleaners / Maintenace store for public toilets |
| **A. Public Facing total** | | | **125** | |

**WAKA HOURUA DEDICATED SPACES**
("nice to haves", should budget (and space) allow)

| Function | | | Area (m2) | Notes |
|---|---|---|---|---|
| | **Subtotal** | | **76** | |
| | Briefing Workroom | | 20 | area to be tested, but will include workbench for repairs |
| | Breakroom | | 15 | Kitchenette/sink/microwave |
| | Drying / Store Room | | 32 | secure storage - sails bags, oils, paints etc… + drying area |
| | Toilet | | 6 | assumed 1 x Unisex accesbile toilet |
| | Cleaners store/sink | | 3 | for Waka Hourua dedicated spaces |
| | **Subtotal** | | **6** | |
| | Building Services | | 2 | Data/Comms, Security, MSB, HWC, PV Battery etc |
| | Rubbish/recycling room | | 4 | externally accessed rubbish / recycling room |
| | **Total** | | **82** | |
| | Circulation | 0.1 | 8 | 10% Waka Hourua dedicated spaces - may not be required, dependent upon plan |
| **B. Waka Hourua dedicated spaces total** | | | **90** | |
| | **A+B** | | **207** | |
| | Nett to GFA (wall thickness) 3% | 0.03 | 6 | |
| **TOTAL (A+B) GFA m2** | | | **213** | |

# 7. APPENDICIES

## I. WAKA HUB EXCERPT - INNER HARBOUR PLAN

# Iron Pot.

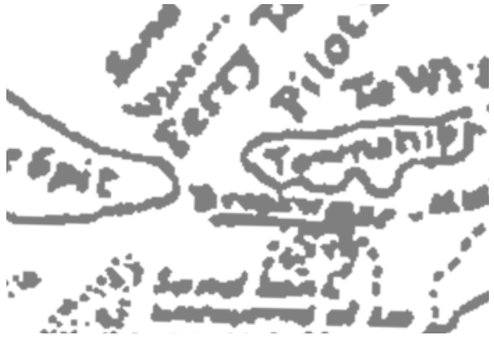
**A place of sheltered anchorage from pre-European times, the enclosed water space of the Iron Pot currently provides mooring for commercial fishing and recreational vessels.**

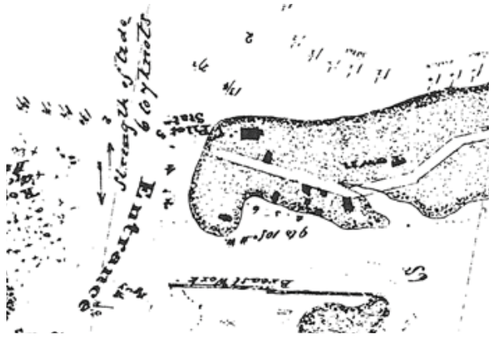
**Creation of a waka 'hub' at the eastern end with associated seating terraces, public space areas, pavilions, access paths and pontoon offers a vibrant new use.**

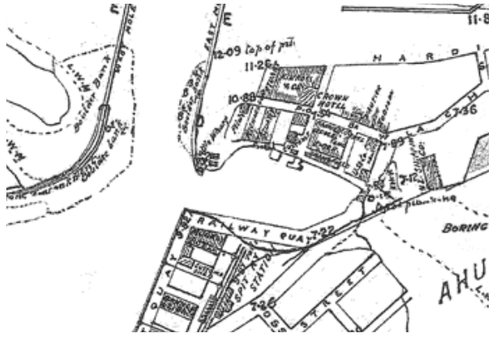
One of the first breakwaters built extended west from the edge of Koau island enclosing the southern edge of the Iron Pot, followed by the construction of Railway Quay (now Customs Quay), and the construction of a bridge at the east end, linking the island and wider reclamation with the shingle spit to the north. The original location of the sea wall / wharf to the north side followed closer to the Nelson Quay alignment. The current seawall constructed shortly before the 1931 earthquake lifted over 1.5m resulting in a significant height difference down to the water level.

Condition of many of the assets within the Iron Pot requires attention, providing the opportunity to deliver additional public space, environment, community, cultural and social outcomes as part of their renewal. Including replanning of existing recreational club facilities, creation of a waka hub, improved pedestrian connectivity, new public open spaces and seating, improved stormwater quality, and tree and shrub planting for shade, shelter and habitat.

# Iron Pot.







**Above.**
Map extracts showing sequential development of the Iron Pot area over time.

**Right.**
(l-r) Boat ramp, seawall & pontoon, lower wharf in foreground; Looking west along Iron Pot. Discharge wharf to left. Bridge Street pier in foreground. Recreational vessel moorings either side; Discharge wharf, access drive & pou located at outer corner of Iron Pot.

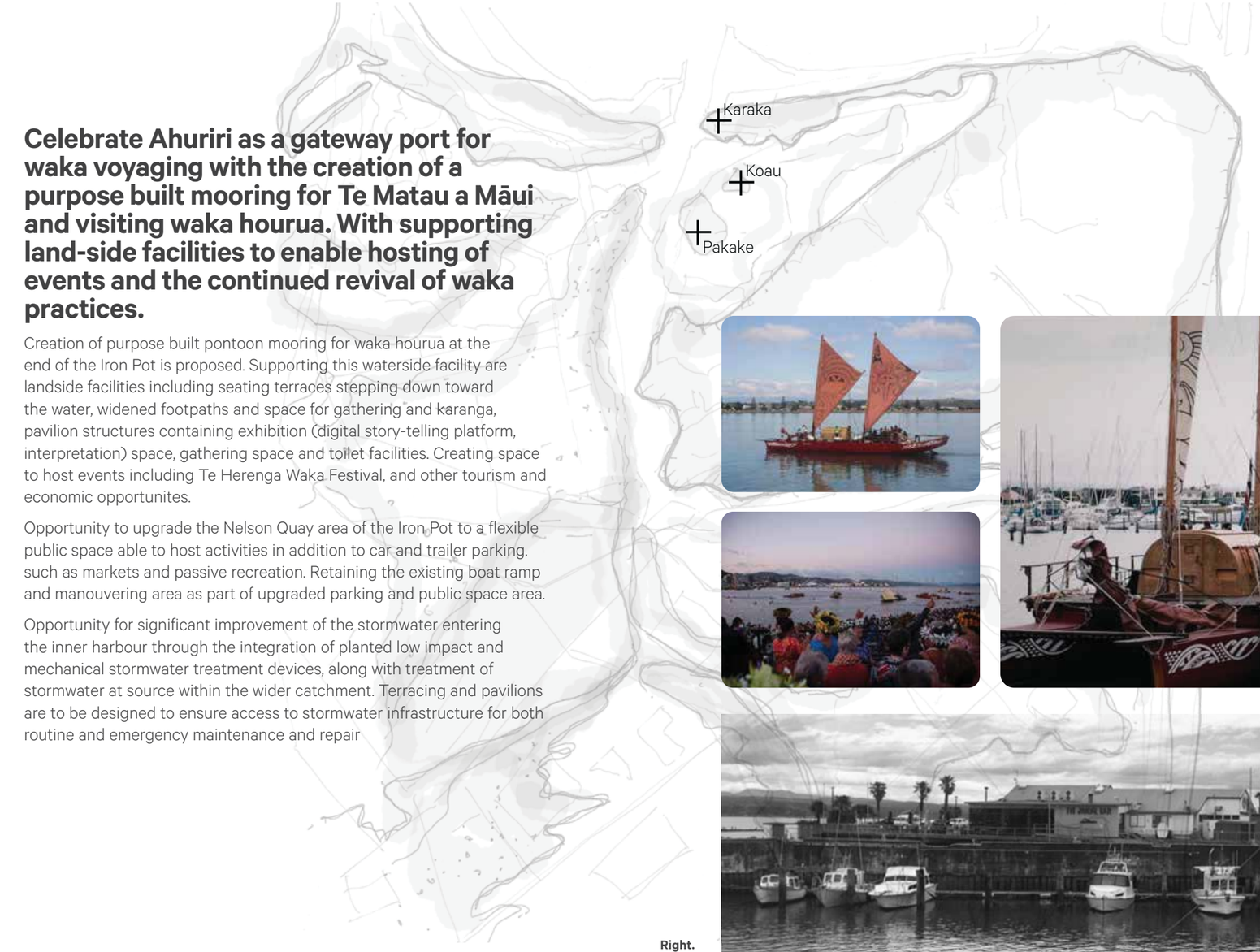
**Right.**
Existing site materials, texture & colour palette.


**Above.**
(l-r) Pontoon below Nelson Quay seawall; Looking south across Iron Pot to Discharge Wharf, pier & limestone revetment; Bridge Street pier & Jull Wharf.

**Left.**
Seawall enclosing boat ramp

Final Draft

# Iron Pot. Waka Hub.




## Celebrate Ahuriri as a gateway port for waka voyaging with the creation of a purpose built mooring for Te Matau a Māui and visiting waka hourua. With supporting land-side facilities to enable hosting of events and the continued revival of waka practices.

Creation of purpose built pontoon mooring for waka hourua at the end of the Iron Pot is proposed. Supporting this waterside facility are landside facilities including seating terraces stepping down toward the water, widened footpaths and space for gathering and karanga, pavilion structures containing exhibition (digital story-telling platform, interpretation) space, gathering space and toilet facilities. Creating space to host events including Te Herenga Waka Festival, and other tourism and economic opportunites.

Opportunity to upgrade the Nelson Quay area of the Iron Pot to a flexible public space able to host activities in addition to car and trailer parking. such as markets and passive recreation. Retaining the existing boat ramp and manouvering area as part of upgraded parking and public space area.

Opportunity for significant improvement of the stormwater entering the inner harbour through the integration of planted low impact and mechanical stormwater treatment devices, along with treatment of stormwater at source within the wider catchment. Terracing and pavilions are to be designed to ensure access to stormwater infrastructure for both routine and emergency maintenance and repair





**Above & Left.**
Waka based event images. Source: Inner Harbour Profile for Māori Tourism.

**Right.**
Iron Pot existing, looking north from Customs Quay. Pontoon mooring of recreational vessels against seawall. Commercial fishing vessels berthed at Discharge Wharf.

*'Since the revival of waka knowledge in Ngāti Kahungunu,Ahuriri has become a gateway port for voyaging waka from Polynesia and centre for revival of traditional celestial navigation. Alongside the Atea-a-Rangi Celestial Compass and expansion and diversification of waka practices, Ahuriri is best-placed to leverage a unique Māori brand.'*

Final Draft

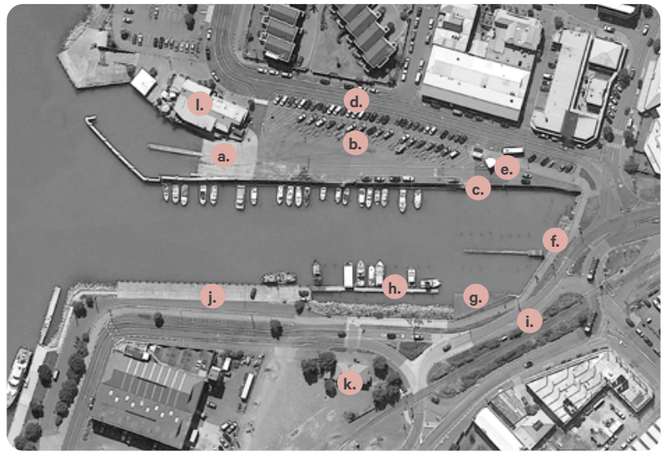
Isthmus.

# Iron Pot. Waka Hub.

**Scope.**

- Long term relocation of Sport Fishing Club to nearby new facility.
- Implement continuous shared path from reserve to Nelson Quay.
- Upgraded Nelson Quay streetscape to include widened footpaths, street tree plantings.
- Investigate viability of raingardens for stormwater quality improvement.
- Repair / replace as necessary the existing northern seawall, including balustrade &/or wheelstops to edge.
- Replace pontoon moorings to north side, including new access ramp.
- Retain public boat ramp, reinstate pontoons to aid launching.
- New pavilion building, housing exhibition / gathering space & toilets.
- Remove Jull wharf and finger pier.
- Replacement of seawall at western end with new seawall, potential to incorporate seating terraces.
- Widened footpaths, plaza space, seating terraces and plantings.
- Install mechanical stormwater treatment within network prior to discharge to Iron Pot, supplement with raingardens within road reserve.
- New pontoon and fingers suitable for waka hourua mooring. Pontoon sized for capacity required for waka boarding and events.
- Boardwalk connection between seating terraces, pontoon and Discharge Wharf.
- New limestone revetment wall, planted bank and ramp connection between Discharge Wharf & boardwalk and Customs Quay allowing for undisturbed areas for Kororā nesting
- Improved street and amenity lighting.


1. Purpose-built pontoon mooring
2. Seating terraces, new seawall beneath
3. Karanga plaza space
4. New club, cafe & community building
5. Old Customhouse
6. New boardwalk connection
7. Ramped access
8. New pavilion & toilet facilities
9. Nelson Quay public space.
10. Balustrade & seating elements to restrict access to edge
11. Stormwater treatment raingardens
12. Mechanical stormwater treatment beneath.
13. Existing boat ramp retained, end terraces replace current seawall
14. New access point and ramps
15. New recreation mooring pontoon
16. Existing Discharge Wharf
17. One-way Customs Quay
18. New public laneway
19. Mana Ahuriri settlement site




**Existing**

- **a. Boat ramp**
- **b. Car & trailer parking**
- **c. Seawall and access ramp**
- **d. Nelson Quay**
- **e. Toilets & bus stop**
- **f. Bridge St seawall and pier**
- **g. Jull Wharf**
- **h. Pier, revetment behind**
- **i. Bridge St & 'peanut'**
- **j. Discharge Wharf**
- **k. Customhouse**
- **l. Sport Fishing clubrooms**

**Right.**
Low impact stormwater treatment options - planted raingardens, mechanical filters.

# Iron Pot. Waka Hub.

**Left.**
Purpose built waka hourua mooring pontoons, seating terraces and plaza space to end of Iron Pot. Boardwalk connection to Discharge Wharf, with ramped connection up to Customs Quay. Pavilion(s) on Nelson Quay housing exhibition space, toilets and other facilities.

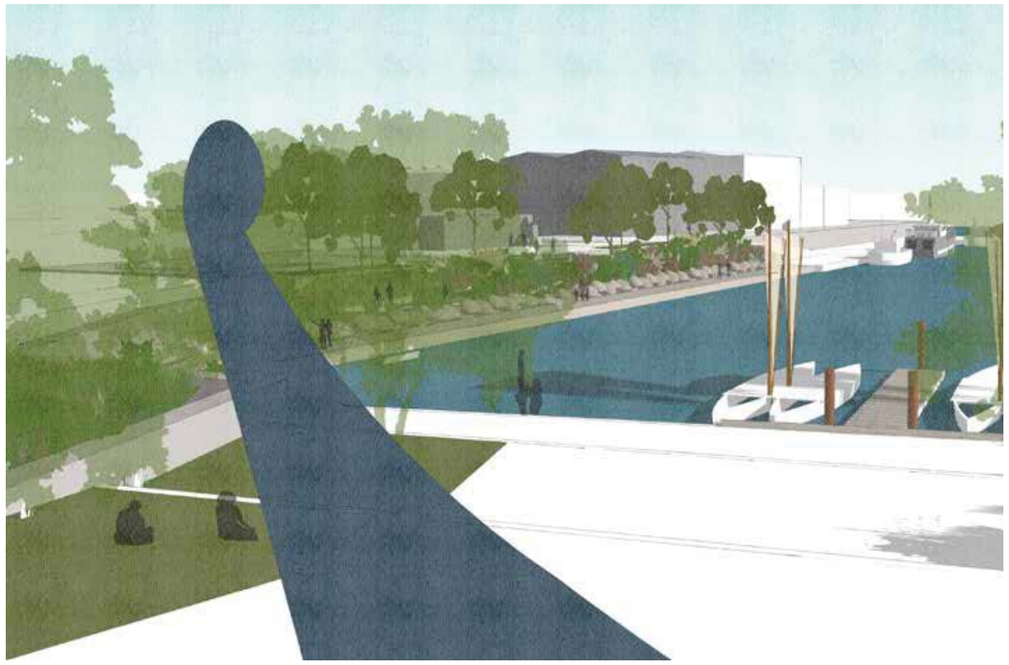
Potential to integrate additional Kororā habitat within / beneath the terrace structure.

**Right.**
Precedent: Pavilion, public art, wharf and boardwalk, Kumutoto Wellington.

Final Draft

Isthmus.

# Iron Pot. Waka Hub.



**Above.**
Retain / replace limestone revetment, planting & accessible path. Incorporate additional Kororā habitat / nesting areas to terraces structure.

**Left.**
Precedent: Seawall, steps and seating terraces, Kumutoto Wellington.

A public harbour edge.

Authentic character and identity.

A water based recreation destination.

A healthy marine environment.

A working wharf environment.

A rich Māori cultural landscape.

A resilient inner harbour.

An efficient high amenity port route.

**Napier Inner Harbour Plan | Napier City Council | 08 March 2022**

**45**

# 7. APPENDICIES

## II. GOVERNANCE STRUCTURE (NCC)

# 7. APPENDICIES

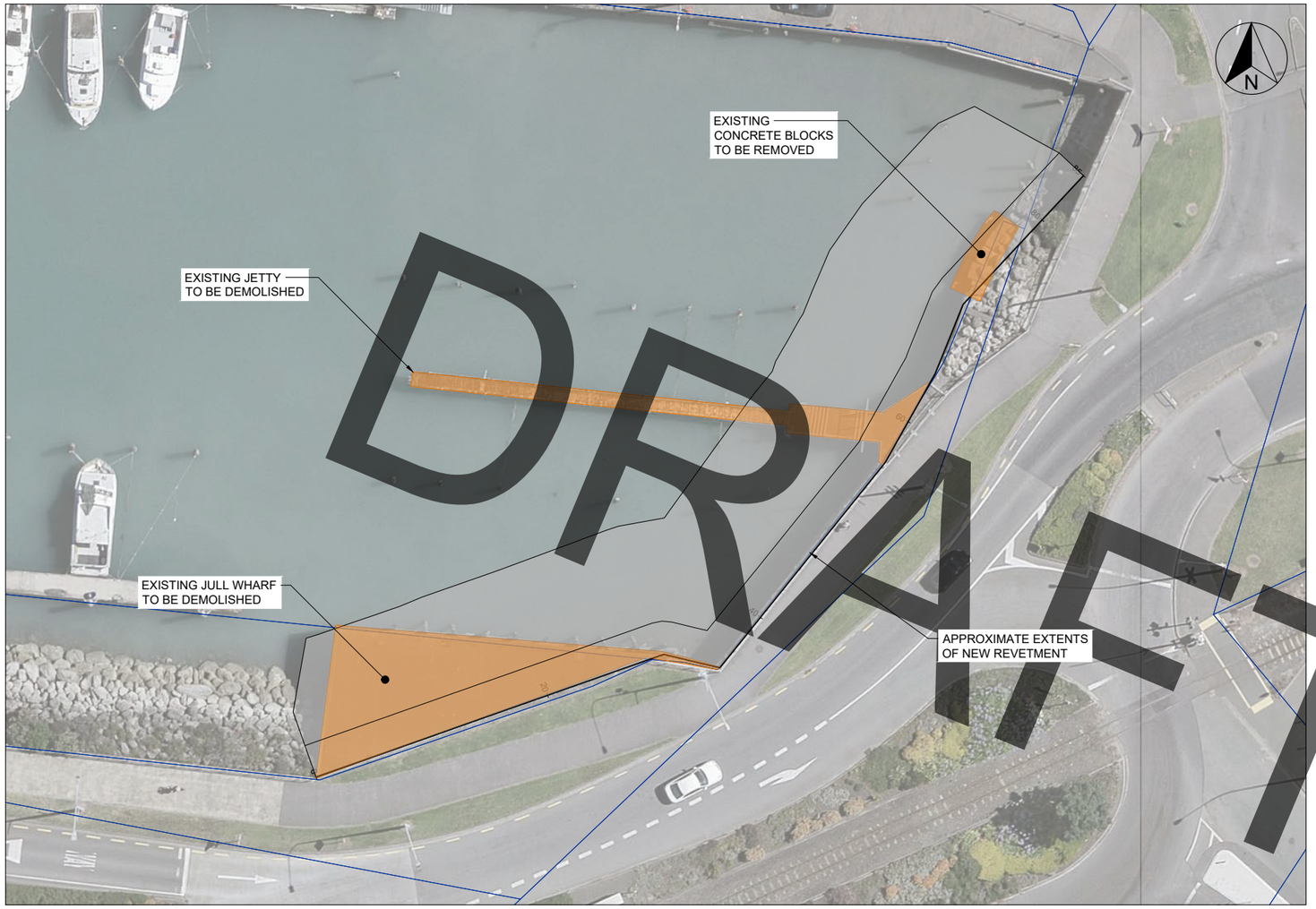
## III. WSP STAGE 1 EMERGENCY WORKS DRAWINGS

DRAFT

# NAPIER CITY COUNCIL
# IRON POT / JULL WHARF
# IRON POT REDEVELOPMENT

## STRUCTURAL
## DRAFT

**Project No: 2-S5367.30**
**Date: YYYY-MM-DD**

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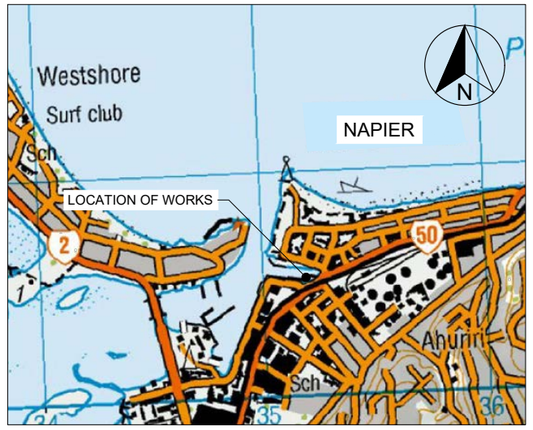


LOCALITY PLAN

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DESIGNED: I. MACDONALD
APPROVED: APPROVER
DRAWING VERIFIED: VERIFIER
DESIGN VERIFIED: VERIFIER
APPROVED DATE: YYYY-MM-DD

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PROJECT: NAPIER CITY COUNCIL
IRON POT / JULL WHARF
IRON POT REDEVELOPMENT

TITLE: SITE PLAN AND LOCALITY PLAN

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SHEET NO.: S01
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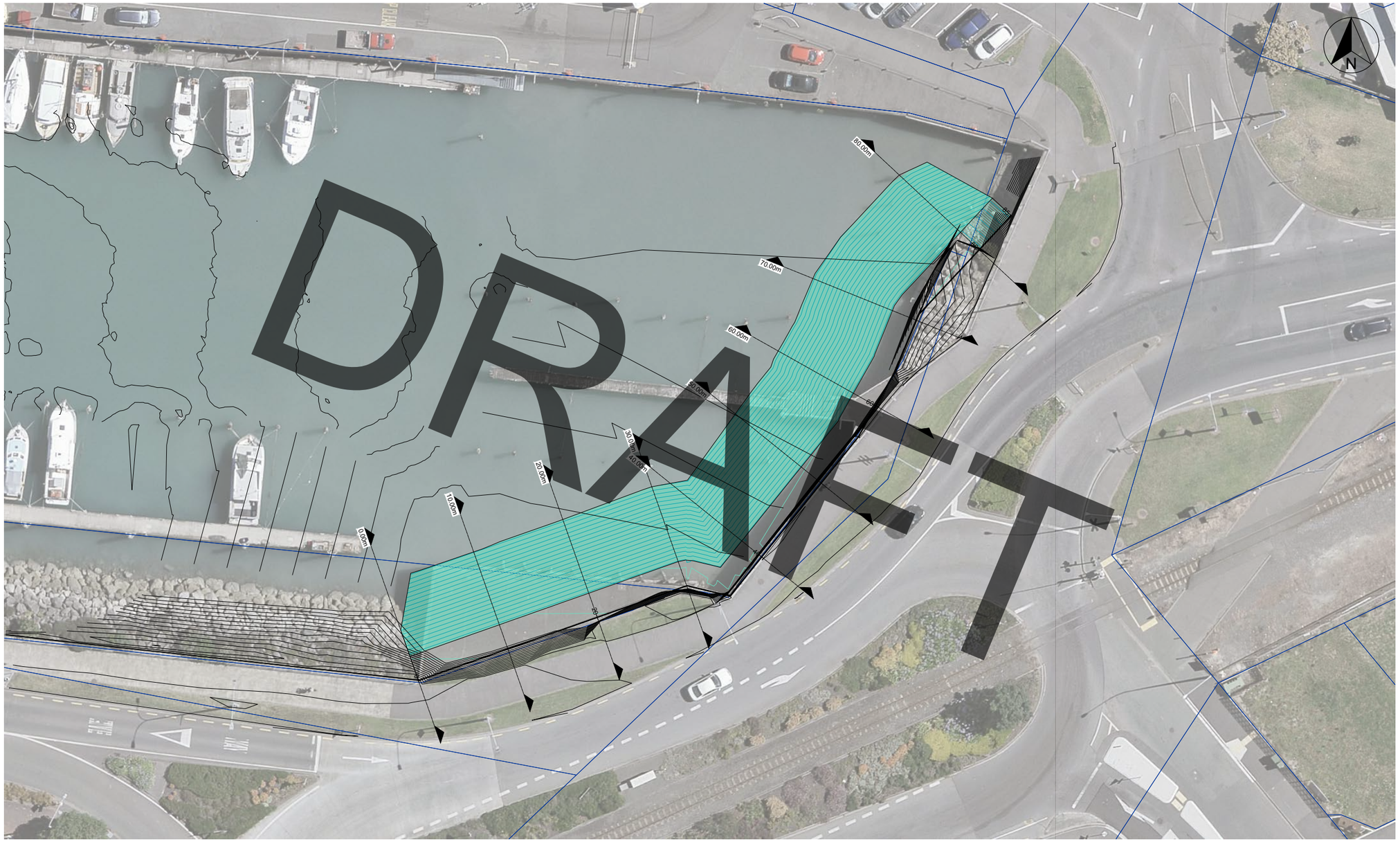


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TITLE
REVETMENT LAYOUT

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SHEET NO.: S02
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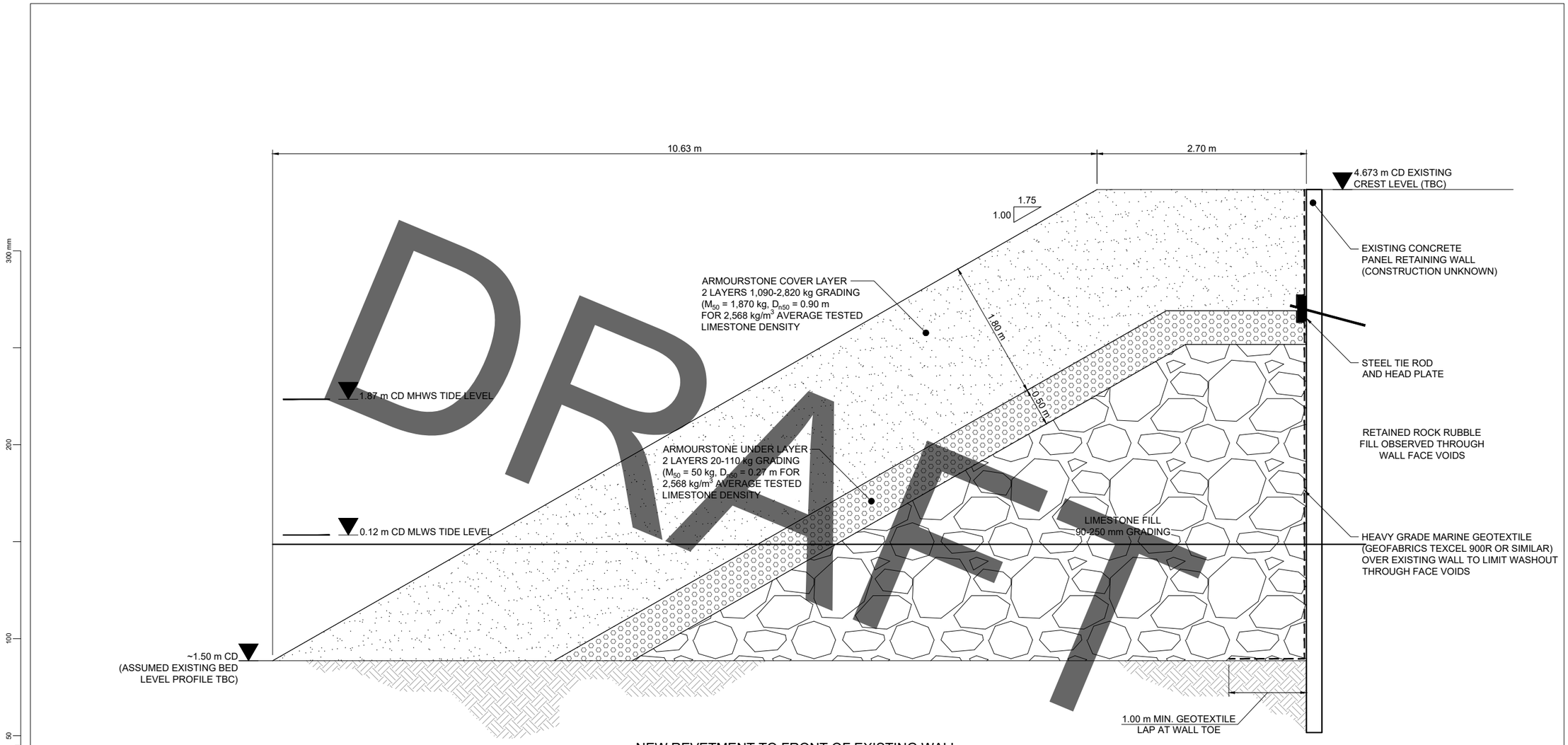




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| C. MURRAY | DESIGNER | APPROVER |

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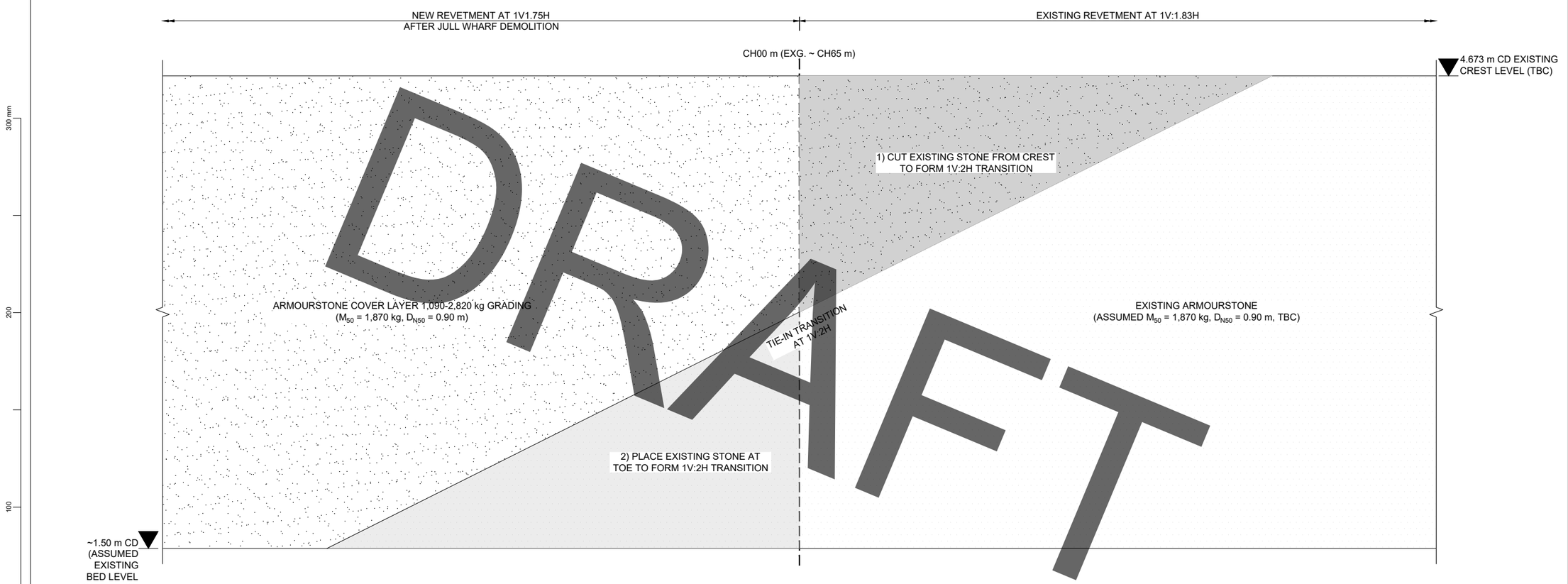


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IRON POT REDEVELOPMENT

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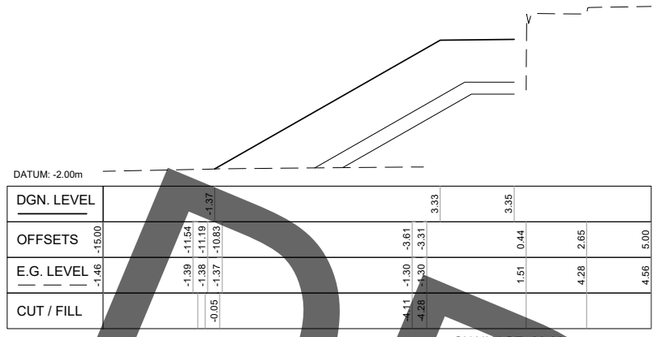

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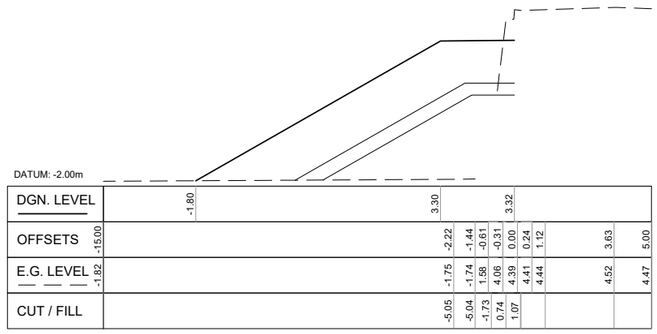

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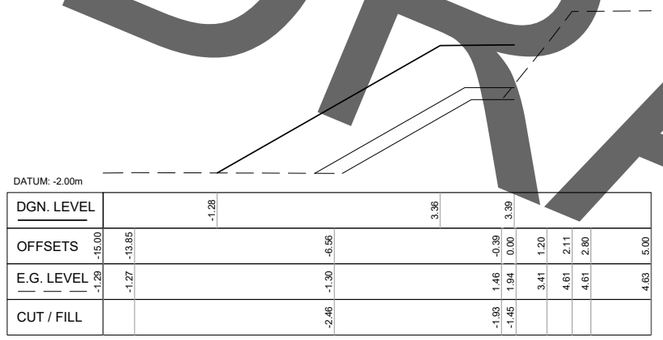

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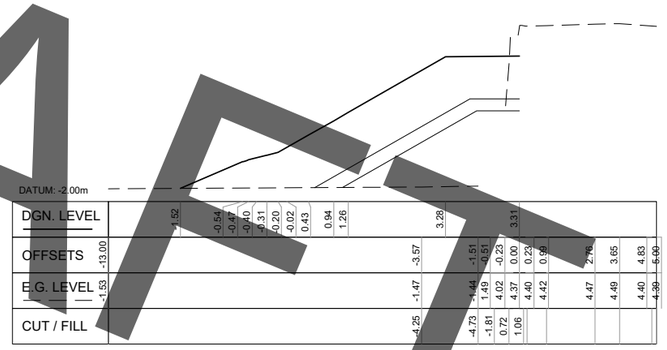

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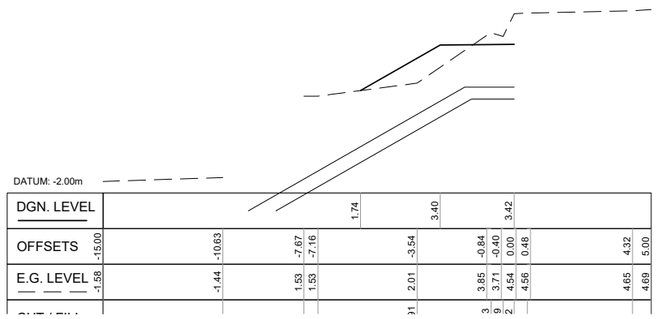

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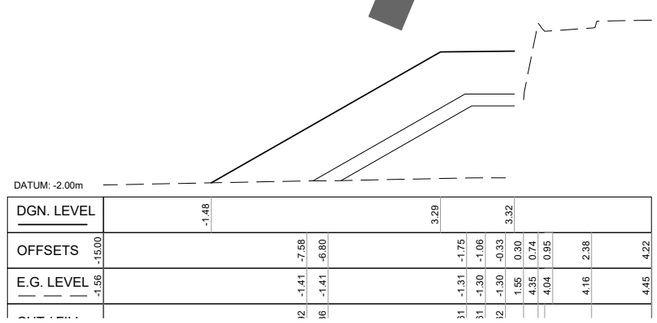

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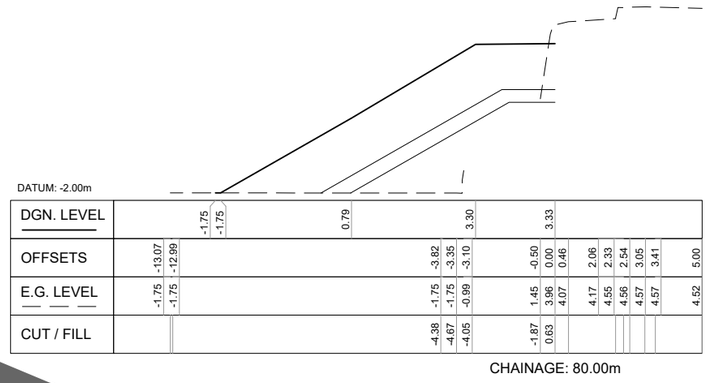


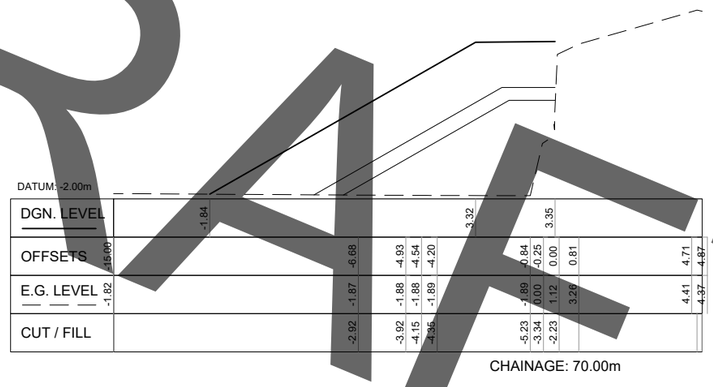


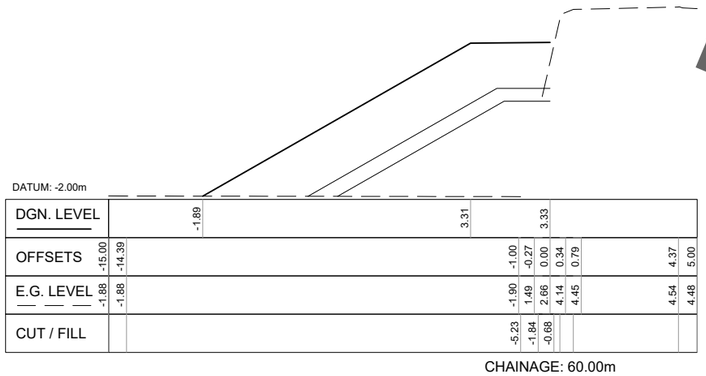




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IRON POT REDEVELOPMENT

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| 2-S5367.30 | S06 | A |

Sensitivity: General

# Waka Hub Multi Criteria Assessment – Short-list Site Reviews

Prepared for Napier City Council
Prepared by Beca Limited

**8 March 2024**

## Contents



## Appendices

Sensitivity: General

## Revision History

| Revision No. | Author | Changes | Date |
|---|---|---|---|
| 1 | Nikki Bartlett-Horn | Draft for issue | 8/03/24 |
| 2 | Nikki Bartlett-Horn | Revised based on client feedback | 15/03/24 |
| 3 | Nikki Bartlett-Horn | Updating ratings based on recent engagement | 4/04/24 |
| | | | |

## Document Acceptance

| Action | Name | Signed | Date |
|---|---|---|---|
| Prepared by | Nikki Bartlett-Horn |  | 12.03.24 |
| Reviewed by | Richard Hickman |  | 12.03.24 |
| Approved by | Jonathan Sanders |  | 12.03.24 |
| on behalf of | Beca Limited | | |

# 1 Introduction

Beca have been engaged to supply technical input into the multi-criteria assessment for the site feasibility for development of a Waka Hub from a short-list of potential sites. The technical inputs cover existing infrastructure, geotechnical considerations, marine considerations, and cost comparison.

This report outlines the results of stage two of the multi-criteria assessment along with background of each attribute justifying the score for each criterion. Stage One of the multi-criteria assessment was completed by Project Stakeholders, with the two highest scoring sites moving forward to Stage Two. A recommended site based on the highest scoring option reflecting both stages of the assessment and next steps is outlined at the end of this report.

# 2 Background

## 2.1 Project Background

The proposed original location at the Iron Pot site for the Waka Hub needed to be reconsidered after the budget estimates within the WSP Optioneering report (WSP, 2023) for the Iron Pot site came in significantly higher than the available funding. After further consultation with Mana Whenua partners, it was agreed a Multi-Criteria Assessment (MCA) should be undertaken at alternative sites within the Inner Harbour. Potential sites within the Inner Harbour were determined as eligible for the assessment and then rated against a series of criterion by Napier City Council and Mana Whenua representatives. A list of these criterion and their results can be found in Appendix A.

A further analysis of the two highest-scoring sites have been scored based on:

- Comparative Cost Analysis
- Civil Infrastructure
- Geotechnical considerations
- Marine Infrastructure and Environment

Further detail on the criterion and their weighting can be found in Appendix B.

## 2.2 Short-listed Sites

### 2.2.1 Option A - Napier Sailing Club Spit

The area highlighted in grey below (approx. 2000m$^2$) is compromised of the entirety of 65 West Quay and part of 63 West Quay. Part of this area is currently leased to the Napier Sailing Club.

Figure 1 – Napier Sailing Club Spit

### 2.2.2 Option B - 705 Meeanee Quay

This potential site considers 705 Meeanee Quay highlighted in grey below (approximately 1000m$^2$). There is the opportunity to utilise the neighbouring Meeanee Quay Reserve (804 on the image below) for a communal green space. Any waka hub structure would need to be within the boundaries of 705 Meeanee Quay.

Figure 2 - 705 Meeanee Quay

# 3 Key Considerations

## 3.1 Geotechnical

### 3.1.1 Site Description

Both sites are generally flat lying and slope gently towards the Ahuriri river. At 705 Meeanee Quay the site comprised hardstand with an existing building and wharf/boat ramp while the Napier Sailing Club Spit is predominantly a grassed area with some rip rap along the shore.

Historical imagery (Retrolens, 2023) suggests that development along Meeanee Quay occurred prior to 1950, while the Napier Sailing Club Spit was being used as a carpark. Historical aerials appear to show that there has been no significant change in land use since 1975. A sea wall/rip rap appears to have been constructed around the Napier Sailing Club Spit between 1950 and 1975.

### 3.1.2 Site Geology and previous investigations

The relevant published geological map (Lee, J.M, 2011) suggest that the proposed sites are underlain by estuarine deposits from the Holocene age, Figure 1. These deposits are described as being unconsolidated silt, mud, peat and sand.

Two CPT's were completed at the Pandora Road bridge abutments in 2005. This is adjacent to Napier Sailing Club Spit and 170m west of 705 Meeanee Quay. These investigations showed an increased cone resistance from ~8mbgl before terminating at 12m and 13m respectively. 11 machine boreholes were completed by WSP in 2022 400m to 600m east of the sites (WSP, 2022). These investigations reached depths of 15-20m and identified sands to 10 – 12mbgl overlying soft silts to at least 15m depth.

200m to 400m south of the sites a range of CPT investigations have been carried out. These encountered similar sandy silts and silty sands to ~4-5m depth where they were inferred to terminate in gravels.

Sensitivity: General




Figure 3: Site Geology (Lee, J.M, 2011)


Figure 4: Nearby Investigations

### 3.1.3 Geotechnical Risks

In 1931 Napier experienced a Magnitude (MS) 7.8 earthquake, causing extensive damage to the area. Uplift within the Hawkes Bay region was significant and up to 3m near the outlet of the Aropaonui River. The Ahuriri Lagoon experienced significant uplift, now makes up the Napier township and outskirts, including both Hub options. Hawkes Bay is one of the most seismically active areas in New Zealand and the active Awanui Fault is ~5km southeast of the proposed sites. The Awanui fault is a steeply dipping reverse fault, with a return period of 5-10,000 years (GNS, 2024).

Our assessment of potential geohazards for each option are presented in Table 1.

| Geohazard | Assessment | Risk at Option A (Napier Sailing Club spit) | Risk at Option B (705 Meeanee Quay) |
|---|---|---|---|
| Fault rupture | The nearest mapped fault is ~5km from both options. Other unmapped faults may exist. | Low | Low |
| Ground shaking | Mapped on Napier City Council (NCC) hazard maps as having High and Very High susceptibility for amplification potential | Very High | High |
| Liquefaction/cyclic softening | The mapped geology and nearest ground investigation data indicates that there are loose/soft alluvial sands and silts below the sites which are potentially subject to liquefaction and cyclic softening in a significant earthquake. Hawkes Bay Regional Council (HBRC) Hazard Portal maps the sites as having medium to high risk of liquefaction. | High | Medium |
| Lateral spreading | Both sites have a free face for lateral spreading into the Ahuriri lagoon should liquefaction occur. | High | Medium |
| Soft ground / settlement | There is no site-specific geotechnical information. Based on the geology maps and nearby investigations the sites are likely to be underlain by loose/soft alluvial sands/silts or fill potentially with gravel at depth. They are likely to be subject to settlement when loaded. | Medium to High | Medium to High |
| Landslide, Rockfall, or Dam break | There are no steep slopes, rockfall sources, or dams near the sites. We note that HBRC Hazard Portal maps a High landslide risk at Option A this is presumably the nearby sea wall/rip rap revetment. | High | Negligible |
| Tsunami | Both sites are on the coast and mapped as being susceptible to local and distal tsunami events on HBRC Hazard Portal. | High | High |
| Tectonic lowering causing inundation | The 1931 earthquake uplifted ~40km2 including the Ahuriri lagoon seabed by ~3m to create dry land. The next | High | High |

| | | | |
|---|---|---|---|
| | earthquake could similarly lower ground levels causing the sea to again inundate the sites. | | |
| Volcanic activity | Ash fall from central North Island volcanoes are mapped as ~2mm for a 1 in 500 year event and ~50mm for 1 in 10,000 year event (Hurst and Smith 2010) | Low | Low |
| Coastal erosion | No coastal hazards mapped on HBRC Hazard Portal however both sites are on the edge of the Ahuriri Lagoon | Low | Low |

Both the Napier Sailing Club Spit site and 705 Meeanee Quay site are subject to a high risk of geological and geotechnical hazards particularly relating to the loose/soft ground potentially underlying the sites and potential seismic activity from nearby active faults (e.g. ground shaking, liquefaction, tsunami, inundation).

## 3.2 Marine Infrastructure and Environment

Both sites provide adequate navigation space, and sheltered berthing. However, the sailing club provides the slight advantage in that the site is out of the main tidal current flows passing beneath the Pandora Road bridge. However, the sites become more distinct when you consider the conditions of the existing plots.

The existing marine infrastructure at 705 Meeanee Quay is not suitable for incorporation into the Hub facilities. The layout of the marine edges do not lend themselves to efficient berthing in their current configuration as the berthing faces are too short, and the extremely poor condition of the structures means they would require demolition and replacement with a structure that is code compliant. Given the industrial usage of the plots and the adjacent slipway, the seabed sediments pose a risk of contamination which would require consideration during the construction works. In order to accommodate the Waka berthing at 705 Meeanee Quay, new marine edges would require construction, and a large pontoon would need to be added extending seaward perpendicular to the marine edge.

While undertaking this exercise, we are assuming the seawall demolition and reconstruction will be done under a parallel project occurring to “make good” this site prior to Waka Hub development.

In contrast, the sailing club frontage could relatively easily accommodate the Waka berthing facilities. The addition of a pontoon and gangways across the existing revetment could be scaled up or down to suit the number of vessels, without the need for the expensive demolition and replacement of the marine edges.

## 3.3 Civil Infrastructure

The following report section provides a desktop assessment of the existing infrastructure at, or adjacent to, the two option sites for the proposed Waka Hub and provides a high-level assessment of the physical construction works required to provide infrastructure connection to the sites. Also provided in this section of the report is an overview of the flood hazards at both sites.

The sources of data used for this existing infrastructure desktop assessment are:

- Cadastral boundaries from LINZ data downloaded on 01/03/2024
- Aerial image from NearMap, taken in 19/02/2023
- Existing utilities from BeforeUDig enquiry made on 14/02/2024
  - Chorus communication network plans
  - Unison power network plans
  - PowerCo Gas network GIS
- Existing three waters infrastructure from NCC GIS on 01/03/2024
- NCC Property Files for both land parcels
- Hawkes Bay Regional Council Hazard Portal

These sources of information were used to create the following existing services maps shown in Figure 5: Napier Sailing Club Split Existing Services and Figure 6: 705 Meeanee Quay Existing Services.

### 3.3.1 Napier Sailing Club Spit (Option A)

Figure 2 shows the known existing services adjacent to the Napier Sailing Club Spit site. The existing services information within the full Napier Sailing Club site is limited as the majority of the infrastructure is private and not available on Council GIS. The design and as-built information within the property file for the site is limited and there is not a full site infrastructure plan. The existing private services shown within the Napier Sailing Club site in Figure 2 reflect what has been pieced together from the various plans within the site's property file, however, there will certainly be more undocumented services than what is shown in the figure. If this site was to be considered further a full site investigation would be required to locate and assess all existing infrastructure.

Sensitivity: General




Figure 5: Napier Sailing Club Split Existing Services

As this proposed site is currently undeveloped there are no services connections directly to the site, the following is a summary of each required service and options for connection:

- Stormwater
  - From NCC GIS there is a Ø300mm stormwater main from Pandora Road drainage that crosses through the proposed site and discharges to the sea. This stormwater line will need to be either built over or diverted. The stormwater runoff from the proposed site could look to utilise the existing stormwater discharge point of this council stormwater, if not a new discharge point and associated required consents will be required.
- Wastewater
  - From the property file for the site, it is known that there is at least one private pump station (as indicated in Figure 2) on site that pumps the Napier Sailing Clubs wastewater off site to the council network within Pandora Road. One option for this proposed site would be to utilise this existing private wastewater network, which may require upgrading of the existing pump station and network pending a condition and capacity assessment. Alternatively, the development could opt to have its own pressure system to connect to the council network off site.
- Water Supply
  - There is very limited available information on the existing water supply network at the Napier Sailing Club, all that is shown is a Ø100mm asbestos cement lot connection, just south of the proposed site, from NCC GIS. A site investigation will be required to locate all the existing water supply network within the Napier Sailing Club and to determine where and what the proposed connection should be. Alternatively, a new connection could be created from the Ø100mm cast iron water main that runs along the east side of Pandora Road.

- Utilities
  - As with the three waters infrastructure, a site investigation will be required to locate all the power, communications, and gas infrastructure within the Napier Sailing Club site, however, from the available property files its known that all three services are within the site. Once the investigation is completed, coordination with the utility providers will be required to determine the best connection options for the proposed site.

In summary, it is expected that there would be moderate costs to either upgrade existing or install new infrastructure to service/support the Waka Hub in this location.

### 3.3.2 705 Meeanee Quay (Option B)

Figure 3 shows the existing services adjacent to the 705 Meeanee Quay site, it shows that there are all the required three waters and utilities infrastructure required for the proposed development within close proximity to the site along the south site of Meeanee Quay. The existing capacity will need to be checked with each service provider, however as there is currently a building on the site with existing services connections, it is not expected that there will be major infrastructure works to provide the required service connections for the Waka Hub in this location.

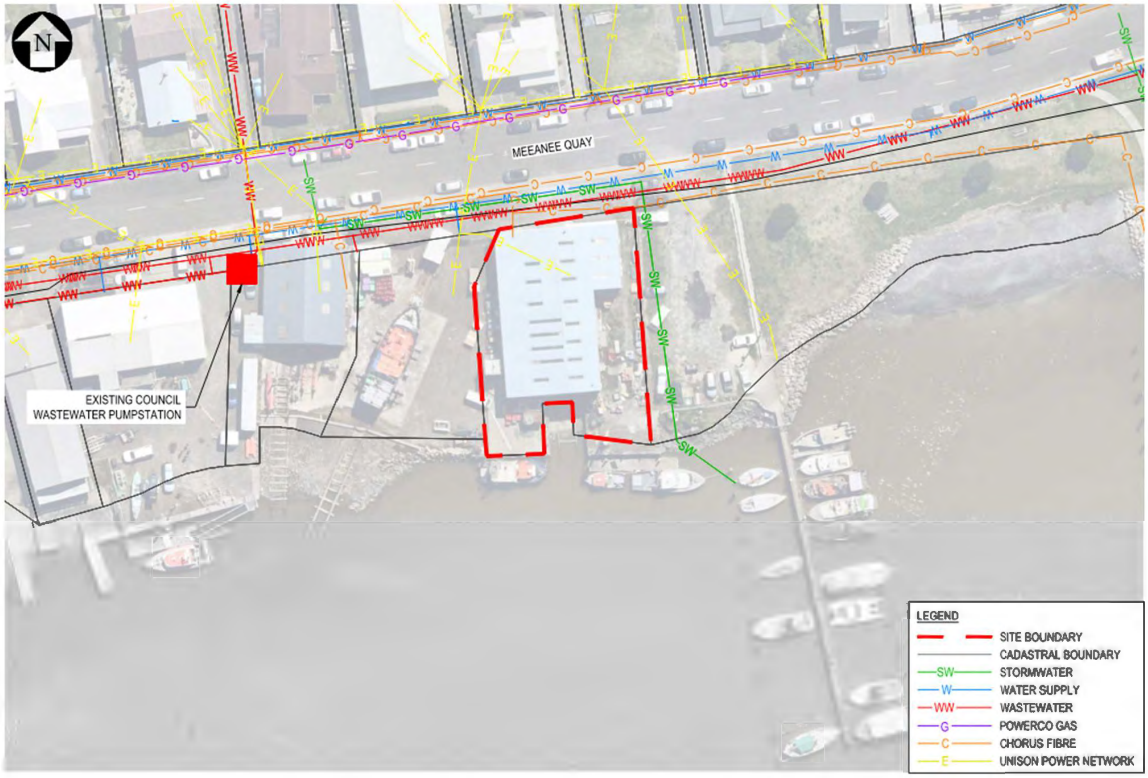



Figure 6: 705 Meeanee Quay Existing Services

### 3.3.3 Flood Risk

Both sites have equivalent high risks for both flood and coastal inundation. The following figures are from Hawkes Bay Regional Council hazard mapping, the first figure, Figure 7: HBRC Flood Risk Areas, shows flood modelling based on 100-year return period events (1% annual exceedance probability). Figure 7: HBRC Flood Risk Areasshows both sites are within flood risk areas. Figure 8: HBRC 2023 Model - Coastal Inundation Depth at 2100 1% AEP shows coastal inundation modelling, this is the flooding of low-lying coastal

land with seawater during tidal storms. This can happen when extreme weather events lead to storm surges, causing elevated wave crest height. Coastal inundation is likely to increase through future sea level rise and coastal subsidence. The modelling shows the coastal inundation at the year 2100 during a 1% AEP event. For either site a site-specific flooding assessment will be required to determine the minimum finished floor level of any proposed structures in relation to these flood risks.


Figure 7: HBRC Flood Risk Areas

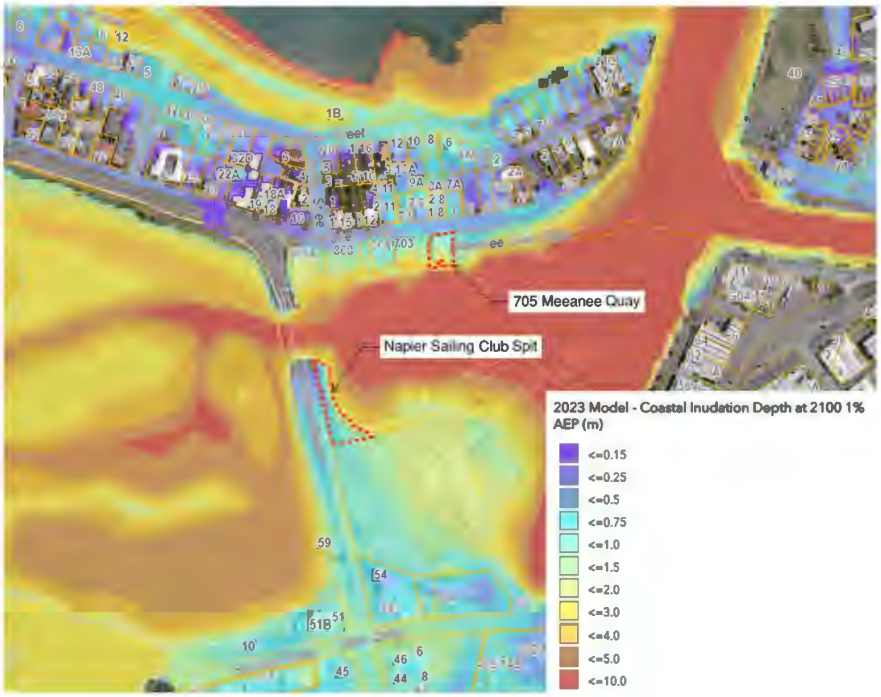


Figure 8: HBRC 2023 Model - Coastal Inundation Depth at 2100 1% AEP

## 3.4 Comparative Cost Analysis

Based upon a high-level cost comparison, Option B - 705 Meeanee Quay appears to be less expensive to develop than Option A - Napier Sailing Club Spit site.

This cost analysis compares two sites and should not be used for budgeting purposes. The Total Expected Cost Estimate value includes the physical construction costs, a preliminary & general allowance of 25%, professional fees of 18% and a contingency allowance of 50%. Further detail is outlined in the table below.

| Item | Napier Sailing Club Spit | 705 Meeanee Quay |
|---|---|---|
| High-Level Cost Estimate | **$6,210,000** | **$5,420,000** |
| Scope of Work | • Remove topsoil, stockpile on site and relay for landscaping.<br>• Connect to council owned three water services and utilities.<br>• Build waka hub, storage building and mooring.<br>• Provide new paved driveway and carparks.<br>• Provide security fence and gates. | • Demolish existing paving and fence.<br>• Connection to council owned three water services and utilities.<br>• Build waka hub, storage building and mooring.<br>• Build new pavement and carparks.<br>• Provide security fence and gates. |
| Assumptions and Clarifications | • We assume that a robust tendering process will be followed and a minimum of three medium-sized local contractors will be invited to tender as part of the procurement process.<br>• Based upon current rates to 1st Quarter 2024.<br>• This estimate is not for budgeting purpose. It is for high level option analysis of 2 different sites for and including the Waka Hub buildings and mooring.<br>• The costs for Waka Hub, storage warehouse, and mooring are assumed the same for both locations.<br>• The costs for constructing Waka Hub, storage warehouse, and mooring were determined based on the WSP Optioneering report, specifically calculated by excluding the seawall rebuilding cost from the structure cost outlined in option 2. | • We assume a robust tendering process will be followed and that a minimum of three medium sized local contractors will be invited to tender as part of the procurement process.<br>• Based upon current rates to 1st Quarter 2024<br>• This estimate is not for budget purpose. It is for high level option analysis of 2 different sites for and including the Waka Hub buildings and mooring.<br>• The costs for Waka Hub, storage warehouse, and mooring are assumed the same for both locations.<br>• The costs for constructing Waka Hub, storage warehouse, and mooring were determined based on the WSP Optioneering report, specifically calculated by excluding the seawall rebuilding cost from the structure cost outlined in option 2. |

| | | |
|---|---|---|
| | • Construction programme duration is based upon 18 months.<br>• We assume there are no existing structures that require demolition or relocation from site.<br>• Existing seawall does not require remediation work.<br>• Traffic Management is required during construction, particularly during connection to existing three water mains along Pandora Road. | • Construction programme duration is based upon 18 months.<br>• Existing structure and existing foundation cannot be re-used for new buildings.<br>• Demolition of existing structures and seawall, revetment works will be undertaken separately by Napier City Council. |
| Exclusions | • Land Acquisition cost<br>• Funding risk<br>• Goods & Services Tax<br>• Geotechnical investigations and Ground Improvement provision<br>• Water Improvement Provision<br>• Risk analysis & allowance<br>• Escalation beyond the date of estimate - February 2024<br>• Insurance Costs<br>• Legal and finance fees<br>• Testing, removal, treatment or disposal of contaminated or hazardous substances.<br>• Building & Resource Consent Fees | • Land Acquisition cost<br>• Funding risk<br>• Goods & Services Tax<br>• Geotechnical investigations and Ground Improvement provision<br>• Water Improvement Provision<br>• Risk analysis & allowance<br>• Escalation beyond the date of estimate - February 2024<br>• Insurance Costs<br>• Legal and finance fees<br>• Testing, removal, treatment or disposal of contaminated or hazardous substances.<br>• Building & Resource Consent Fees<br>• Demolition of existing building and its foundation<br>• Demolition of existing seawall and wharfs<br>• Construction of new sea walls and new wharf/ pontoon |

# 4 Options Assessment

The two sites have been scored using the option assessment criteria as defined in Appendix B. These results are presented below.

**Stage 2 Multi-Criteria Assessment:**

| Criterion | Weighting | Napier Sailing Club Spit – Score | 705 Meeanee Quay – Score |
|---|---|---|---|
| Civil Infrastructure | 20% | **10%** | **20%** |
| | | 2/4 | 4/4 |
| | The 705 Meeanee site is currently a developed lot so has all the required infrastructure connections at the lot boundary, meaning little civil engineering to connect the proposed Waka Hub. The Napier Sailing Club Spit site however is currently undeveloped, so does require new infrastructure connections and may need to connect to private Napier Sailing Club infrastructure, such as their wastewater pump station, which could require upgrading. | | |
| Cost | 50% | **25%** | **37.5%** |
| | | 2/4 | 3/4 |
| | Both options have similar estimated cost, however the elements of costs within the estimate differs greatly. The estimated comparative cost of option B - Meeanee Quay is approximately 15% lower than Option A - Napier Sailing Club Spit. Based on the estimated project budget (currently $5.5m), and the ability to deliver 705 Meeanee Quay with another funded project, it is the preferred site. | | |
| Geotechnical | 10% | **0%** | **0%** |
| | | 0/4 | 0/4 |
| | Both the sites are subject to a high risk of geological and geotechnical hazards particularly relating to the loose/soft ground potentially underlying the sites and potential seismic activity from nearby active faults. The high risk is what warrants the score to both sites. | | |
| Marine Infrastructure and Environment | 20% | **20%** | **10%** |
| | | 4/4 | 2/4 |
| | The sailing club site is protected from tidal movements in comparison to the more exposed 705 Meeanee Quay site. The sailing club site also has the existing set-up to facilitate a pontoon/berthing area, whereas the existing infrastructure at 705 Meeanee Quay will be demolished and rebuilt under a parallel project. | | |
| **Total:** | | **55%** | **67.5%** |

**Final Results:**

| | Napier Sailing Club | 705 Meeanee Quay |
|---|---|---|
| Stage One MCA Result: | 88.75 | 75.25 |
| Stage Two MCA Result: | 55 | 67.5 |
| **Total:** | **143.75** | **142.75** |

# 5 Preferred Location and Next Steps

## 5.1 Preferred Location

Based on the two-stage multi-criteria assessment, the Napier Sailing Club is the preferred site for development of the Waka Hub, by an insignificant margin.

Napier Sailing Club is Atea-a-Rangi trusts preferred site, as it aligns with their values significantly more than the 705 Meeanee Quay site.

## 5.2 Next Steps

Recommended next steps include:

- Developing a concept design to enable stakeholder engagement and a cost estimate that could be used to budget more accurately.

# 6 References

Hawkes Bay Regional Council Hazards Portal (accessed 8/03/2024) <https://hawkes-bay-hazard-portal-exb-poc.netlify.app/?page=page_30>

Retrolens, Historic Imagery. (accessed 8/03/2024). <https://retrolens.co.nz/>

Napier City Council – IntraMaps. (accessed 8/03/2024). <www.gis.napier.govt.nz>

NZGD. (2023). New Zealand Geotechnical Database. Retrieved from <https://www.nzgd.org.nz/arcgismapviewer/mapviewer.aspx>

GNS. (2023). New Zealand Active Faults Database. Retrieved from https://data.gns.cri.nz/af/WSP (11 BH's)

Lee, J.M.; Bland, K.J.; Townsend, D.B.; Kamp, P.J.J. (compilers) 2011: Geology of the Hawke's Bay Area. Institute of Geological and Nuclear Sciences 1:250000 geological map 8. 1 sheet +93p. Lower Hutt, New Zealand. GNS Science.

Tony Hurst & Warwick Smith (2010) Volcanic ashfall in New Zealand probabilistic hazard modelling for multiple sources, New Zealand Journal of Geology and Geophysics, 53:1, 1-14

WSP. Iron Pot Redevelopment, Ahuriri, Napier – Factual Report. 2 December 2022

WSP. Iron Pot Redevelopment, Waka Hub Optioneering Report – Version 2. 14 November 2023.

Sensitivity: General



# Appendix A – Long-list Options Evaluation

# Long-List Options Assessment Criteria

| Eligibility Criterion | PASS | FAIL |
|---|---|---|
| **Size of Site.** Is the site able to accommodate the 125m$^2$ minimum floor area necessary for Whare Waka (90m$^2$ to accommodate a multi-purpose education space, plus 35m$^2$ for public toilets and 'end of trip' facilities).<br><br>**Safe Berthage.** Is the mooring protected from the swells, cross winds and tidal changes?<br><br>**Maneuverability.** Is there adequate access for the waka to the moored in this location easily and with little exposure to cross winds? | | |

| Criterion | 0 – does not meet | 2 - demonstrates | 4 – strongly demonstrates |
|---|---|---|---|
| **Appropriate Activation**<br>**a. Profile/landmark**. The site is located in a high profile position. The new Waka Hub will create a landmark for the city, and provide an identity to that area. | Low profile location with no ability to view from the public realm and no ability to modify sightlines / viewshafts | Medium profile location and has relatively good exposure which can be further accentuated with development. Visible from the water. | High profile location adjacent to high volume transport routes and reserves. Easily seen from the water and complements existing / planned adjacent high profile activities / spaces |
| **b. Leverage activity / transformative**. The site is located in a place that could benefit from the additional foot traffic / exposure that the Waka Hub will create. The Hub would encourage investment and increase the profile of the surrounding area. | The site is surrounded by activities that are not complementary to the Waka Hub and would receive no benefit from foot traffic generated by this. The Waka Hub in this location would disrupt existing activities and uses of the area, not add to them. | The site is located within easy walk of Ahuriri and is on public transport routes. Some adjacent activities would benefit from the Waka Hub being in this location and would be complementary to those activities. | The site is located in close proximity to complementary water-based activities, and the neighbouring activities would benefit from the increased profile that the Waka Hub would bring to this location. Council's investment in this area would likely spark external investment in adjacent sites |

Sensitivity: General



| Criterion | 0 – does not meet | 2 - demonstrates | 4 – strongly demonstrates |
|---|---|---|---|
| **Te ao Māori**<br>**a. Cultural connection / significance**. The location has heritage value, cultural significance, and/or is considered important to Mana Whenua | The site is of no cultural significance to Mana Whenua or have any heritage value. | The site has some cultural significance and / or heritage value that would be elevated with the development of the Waka Hub in this location. | The site has significant cultural significance to Mana Whenua which would be complemented by the presence of the Waka Hub in this location. |
| **b. Physical Connection to the Water**. This location allows visitors to have access to the waters edge enhancing spiritual connection, and providing greater opportunity for education about the ocean. | This location provides no opportunity for internal access for visitors to be able to get down to the waters edge and connect with the water | This location provides adequate access to the waters edge, however this is restricted and may require investment | The site has good access to the water with sufficient space to accommodate a range of activities down at the waters edge (ie. school groups, |
| **c. Mauri Tū**. Establishment of the Waka Hub in this location has the potential to enhance the marine & coastal environment (ie. kororā protection, water quality improvements, etc) | The mauri of this site is already compromised and there is no opportunity to improve this site or improve the mauri of this area through the development of this site. | Establishing a waka hub in this location presents opportunities to enhance the mauri of the coastal and marine environment (such as stormwater improvements, kororā habitat creation, etc) | Establishing a Waka Hub in this location presents will greatly improve the coastal and marine environment and encourage greater opportunities for environmental enhancements in the wider area |

| | | | |
|---|---|---|---|
| **Displacement Effects**.<br>**a.** What effects will be created as a result of locating a Waka Hub on the site and displacing the existing activities from the location. | Locating the Waka Hub on this site will result in numerous, ongoing and / or permanent negative effects (e.g. removal of necessary infrastructure or legitimate activities that cannot be accommodated elsewhere) | Locating the Waka Hub on this site does not result in any negative effects or disruption to existing activities. Any displaced activities can be accommodated elsewhere within the Inner Harbour. | Locating the Waka Hub on this site increases positive activity surrounding the site and positively refocuses the area. |
| **b. Noise / inverse impact on adj.activities / uses.** The level of ambient noise and the impact on the functionality of the Waka Hub | The location receives a high level of ambient noise that cannot be managed which will significantly impact how the Hub functions | The location receives a moderate level of ambient noise that can be mitigated and / or designed to address this | The location has little ambient noise or the design of the Waka Hub will remove the impact of ambient noise on the Waka Hub. |
| **c. Security risk due to adj. activities / uses.** The likely level of risk to site security and the impact on functionality of the Waka Hub | The site is located in a high-risk area making the Waka Hub a potential target for vandalism and anti-social behaviour. Design of the Hub cannot mitigate this risk | The site is located in a low-risk area and the Waka Hub will be at low risk of vandalism and anti-social behaviour. Design of the Hub can address potential risk | The site is secure / can be fully secured with design interventions. |
| **Connectivity**<br>**a. Easily Accessible.** It is easy for visitors and community groups to get to the site on foot, bicycle or bus | The site has no footpath or cycle infrastructure leading to it and requires the use of private vehicle to get to. Parking is on the street, and mobility access is difficult. | The site can be accessed by all modes, though footpaths are functional, connectivity to the wider area is limited, and there is some difficulty in reaching the site by bike and mobility aides. | The site is easily accessible by multiple modes and off road cycle lanes connect to the site. Footpaths are wide, well-lit, smooth, and level. Connectivity with other parts of Ahuriri is excellent, with good wayfinding. |
| **a. Visibility from Public Realm.** The site is visible from multiple public locations (ie. main roads, reserves, and the water) | Low profile location with no ability to view from the public realm and no ability to modify sightlines / viewshafts. | Medium profile location; relatively good sightlines to the site which can be further modified / accentuated with development. Visible from the water. | High profile location; well positioned and visible from highly volume transport routes and reserves. Easily seen from the water alongside high-profile activities / amenities. |
| **b. Vehicle Access / Parking.** The site has on-site or nearby car parking available | The site is difficult to reach via private vehicle. The site is located where there is no on-site or on- | Reaching the site via private vehicle is easy, with good connections and limited disruption to traffic flow. Site has | Reaching the site via private vehicle is easy, with good connections and limited disruption to traffic flow. The site |

| | | | |
|---|---|---|---|
| | street carparking with easy access to the water, and no ability to drop-off passengers in a loading zone or accommodate assembly points and buses. | access to on-street carparking. A loading zone or drop-off bay is available adjacent. The site contains a limited supply of 'on-site' carparking. Good size area for bus passengers to assemble. | contains many on-site carparks, and on-street carparks are also available nearby. There is sufficient space for trailers to park on-site and a loading zone is available |
| **Functionality**<br>**a. Accessible to the water.** The location has easy access to the water, and the Hub will provide good mooring opportunities with easy access / paths up to the Whare Waka. | The site cannot be modified to achieve minimal access requirements (i.e. mooring for the Waka Hourua, and access between carpark - Whare Waka – mooring). | Part of the site achieves or can be modified to meet accessibility and mooring requirements (i.e.. mooring of multiple Waka Hourua, and access between carpark - Whare Waka – mooring). | The site achieves or can be modified to meet universally accessible requirements and provides good connectivity between site amenities. (i.e.. mooring of multiple Waka Hourua, and access between carpark - Whare Waka – mooring) |
| **b. Capable of Hosting Events**. The ability to accommodate a communal area for celebration, welcome / farewells, and to host manuhiri from both land and sea | The site is too small to accommodate a communal area and cannot be modified to meet the minimum space necessary for hosting | The site can accommodate / be modified to provide a communal area that can be multi-functional | The site can accommodate a well-proportioned, multi-functional communal area that is well connected to the mooring and easily accessible |
| **c. Size**. The degree to which the site can accommodate additional dedicated spaces for Waka Hourua (briefing room, kitchenette, toilet, drying room, showers) | The site provides no ability to accommodate additional activities on-site, other than the Whare Waka | The site has adequate space to accommodate all necessary additional spaces required to fully service the Waka Hourua activities (ie. kitchenette, toilet, etc) | The site has multiple spaces able to accommodate all additional Waka Hourua activities and foreseeable opportunities and has sufficient area for expansion. |
| **d. Public Greenspace Adjacent.** Suitable accessible public space close by to host / accommodate complementary activities and facilities (ie. changing rooms, public toilets). | The site provides no ability to access outdoor space. | The site is able to access adequate outdoor space borrowed from an adjacent site or one close-by for complementary activities | The site is located within a high amenity public green space with multiple opportunities to access outdoor spaces for multiple purposes. |

| | | | |
|---|---|---|---|
| **e. Storage and Maintenance** Suitable space for storage of equipment and to undertake maintenance of the waka | The site provides no facility for storage and/or maintenance. | The site is able to access space for storage and/or maintenance from an adjacent site or one close-by for complementary activities | The site provides good amount of space to store equipment and maintain the waka. |
| **Ease of Development**<br>**a. Compliance.** What regulatory processes are required to enable development? What is the likelihood of being able to comply? | Regulation prohibits the project from proceeding. | There are some risks in relation to regulatory processes. Some of these processes are time consuming, but the likelihood is that the project will go ahead. | There are minimal standard regulatory processes to complete the project. . |
| **b. Tenure.** What is the security of tenure? Is the site owned by Council, can be purchased by Council, or a long-term lease obtained? | The site is privately owned with no guarantee that it could be either purchased or a long-term lease obtained. | The site is privately owned / leased from Council and the owner has already indicated a willingness to enter into a long-term lease option with Council. | The site is currently owned by Council. |
| **Berthage and Manoeuvrability** Is there ease of navigation in and out, limited impact from winds, tides and surge/swell of the sea | The mooring provides no assurance of safety from the impact of wind, tides and surge/swell of the sea. | The mooring provides some assurance of safety from the impact of wind, tides and surge/swell of the sea. | The mooring provides good assurance of safety from the impact of wind, tides and surge/swell of the sea. |

# Long-List Assessment Results

| Criterion | Sub Set | Weighting | Score: Iron Pot | Score: Current berth | Score: Sailing Club spit | Score: Meeanee Quay |
|---|---|---|---|---|---|---|
| PASS/FAIL | Y/N | / | PASS | FAIL | PASS | PASS |
| 1. Activation | | 10% | 10 | | 9.25 | 5 |
| a. Profile/landmark | % | 7 | 4 | | 4 | 2 |
| b. Leverage activity / transformative | % | 3 | 4 | | 3 | 2 |
| 2. Te ao Māori | | 15% | 7.5 | | 13.75 | 8.75 |
| a. Cultural connection / significance | % | 5% | 4 | | 4 | 2 |
| b. Physical connection to the water | % | 5 | 0 | | 4 | 3 |
| c. Mauri Tū | % | 5 | 2 | | 3 | 2 |
| 3. Displacement Effects & Adjacencies | | 15% | 2.5 | | 10 | 10 |
| a. Displacement of existing activities / structures required | % | 2.5 | 0 | | 2 | 4 |
| b. Noise or inverse impact from adj. uses | % | 2.5 | 0 | | 2 | 0 |
| c. Security risk due to adj. activities / uses | % | 10 | 1 | | 3 | 3 |
| 4. Connectivity | | 10% | 2 | | 9 | 9.5 |
| a. Easily accessible | % | 4% | 1 | | 3 | 4 |
| b. Visibility from Public Realm | % | 2 | 2 | | 4 | 3 |
| c. Vehicle access / parking | % | 4 | 0 | | 4 | 4 |
| 5. Functionality | | 25% | 3 | | 21.75 | 25 |
| a. Access to the water (arrival experience, mooring) | % | 4% | 0 | | 4 | 4 |
| b. Capable of hosting events | % | 4 | 2 | | 4 | 4 |
| c. Size (incl capacity to add storage or to grow/future-proofing) | % | 4 | 1 | | 3 | 4 |
| d. Public space adjacent (including greenspace) | % | 3 | 0 | | 1 | 4 |
| e. Suitable facility for storage and maintenance | % | 10 | 0 | | 4 | 4 |
| 6. Ease of Development | | 10% | 2.5 | | 10 | 9.5 |
| a. Compliance (Consenting) | % | 2% | 1 | | 4 | 3 |
| b. Tenure | % | 8 | 1 | | 4 | 4 |
| 7. Berthage and Manouverability | | 15% | 3.75 | | 15 | 7.5 |
| | | | 31.25 | 0 | 88.75 | 75.25 |

Sensitivity: General

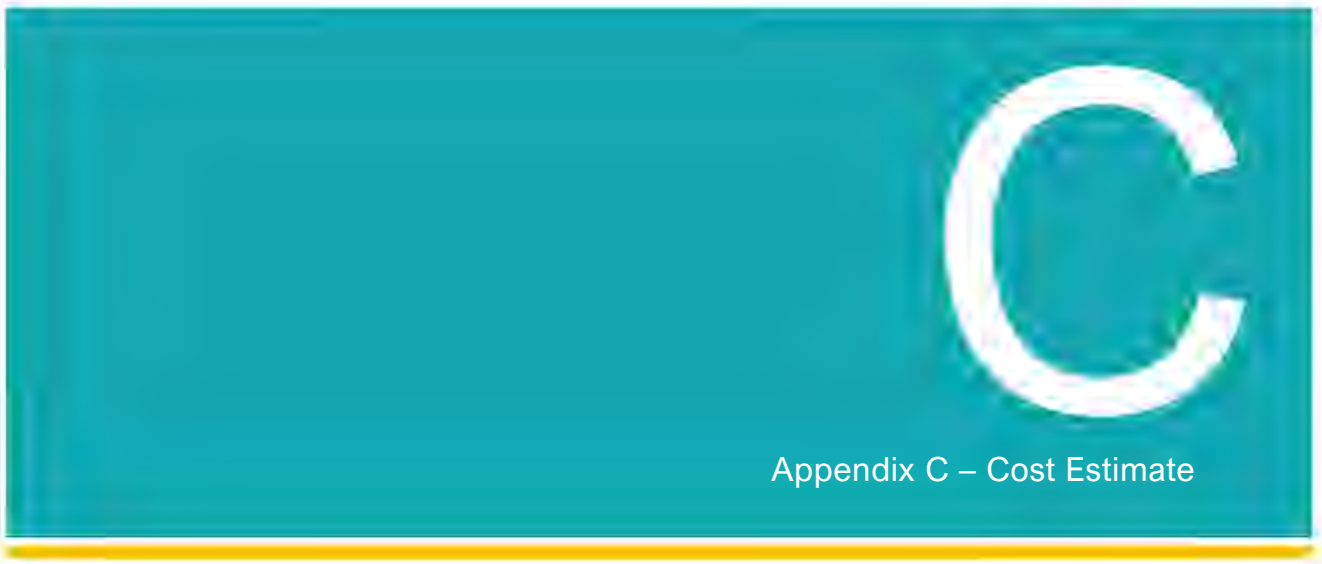


# B

## Appendix B – Short-List Options Evaluation

# Short-List Options Assessment Criteria

| Criterion | Does Not Meet – 0 | Demonstrates - 2 | Strongly Demonstrates - 4 |
|---|---|---|---|
| **Civil Infrastructure:** Are civil enabling works required in order to develop the Waka Hub in this location? | There is significant difficulty and considerable costs required to develop this site (ie. Enabling Works, extensive foundations, etc) and no existing infrastructure present. | There are moderate costs to either upgrade existing or install new infrastructure to service/support the Waka Hub in this location. | No new infrastructure or modification is required to establish the Waka Hub in this location. |
| **Cost:** Is developing the Waka Hub on this site financially viable? | The development is likely to significantly exceed the funds allocated under the Long Term Plan and existing external funding (currently totalling $5.5m). Opportunities to obtain additional funding are negligible. | It is possible that the development could be completed within the allocated funds (currently $5.5m) provided additional funding is able to be obtained from other sources. | Council are confident that the development can be completed within the allocated funding (currently $5.5m). Alternative sources of funding have also been secured. |
| **Geotechnical:** Does developing the Waka Hub in this location have significant geotechnical risk? | The site for development is composed of poor/unknown material. There is significant seismic or similar geotechnical risk associated in this area, | The material forming the site for development has potential with some mitigations. There is the possibility of seismic or similar geotechnical risk in the site area, which could be mitigated through design. | The site for development is composed of suitable material. There is little to no seismic or similar geotechnical risk associated with development in this area. |
| **Marine Infrastructure and Environment:** Does the marine environment possess the capacity for a waka berthing structure? | Significant dredging would be routinely required to maintain site suitability. No existing marine infrastructure exists/could be utilised. Any potential marine infrastructure to be installed is impractical for use at the Waka Hub. | Dredging of the site would be periodically required. There is potential for existing infrastructure to be utilising in some capacity or installation of a new marine asset will suit the needs of the Waka Hub. | Little to no maintenance dredging would be required to maintain practicality of waka site. Existing infrastructure can be used at the Waka Hub and is in good condition. New marine assets are able to be installed for us at the Waka Hub relatively simply. |



**Estimate Summary**
**Option A - Napier Sailing Club Spit**

| Code | Description | Quantity | Unit | Rate | Total |
|---|---|---|---|---|---|
| | **Napier City Council - Waka Hub and Pavilion Site Feasibility Assessment** | | | | |
| | **Waka Hub - Option A - Napier Sailing Club Spit** | | | | |
| | **Feasibility Option Analysis** | | | | |
| | 28 February 2024 | | | | |
| | Estimated by: Shane Tse | | | | |
| | Verified by: Audrina Stanley | | | | |
| | **Scope of works:** | | | | |
| | •Remove topsoil, stockpile on site and relay post construction.<br>•Connect to council provided three water services and utilities.<br>•Make good to road/paving affected by groundwork.<br>•Build waka hub, storage building and mooring.<br>•New paving driveway, car parks and fence. | | | | |
| | **Basis Of Estimate** | | | | |
| | WSP Waka Hub Optioneering Report V2.0 (2023). | | | | |
| | The estimate is based on the below assumptions to be used by NCC in high level decision making only. BECA recommends the costs of the preferred option are re-visited at the end of each design phase (likely in line with the NZ Construction Industry Council guidelines) as a HOLD POINT. | | | | |
| | **Clarification and Assumptions** | | | | |
| | Based upon current rates to 1st Quarter 2024 | | | | |
| | This estimate is not for budget purpose. It is for high level option analysis of 2 different sites for and including the Waka Hub buildings and mooring. | | | | |
| | The costs for Waka Hub, storage warehouse, and mooring are based upon WSP cost estimates and are assumed equal for both locations. | | | | |
| | Construction programme duration is based upon 18months. | | | | |
| | **Exclusions** | | | | |
| | Land Acquisition cost | | | | |
| | Funding risk | | | | |

**Estimate Summary**
**Option A - Napier Sailing Club Spit**

| Code | Description | Quantity | Unit | Rate | Total |
|---|---|---|---|---|---|
| | Goods & Services Tax | | | | |
| | Ground Improvement provision | | | | |
| | Water Improvement Provision | | | | |
| | Risk analysis & allowance | | | | |
| | Escalation beyond the date of estimate - February 2024 | | | | |
| | Insurance Costs | | | | |
| | Legal and finance fees | | | | |
| | Testing, removal, treatment or disposal of contaminated or hazardous substances. | | | | |
| | Building & Resource Consent Fees | | | | |
| | Relocation and/ or upgrade of underground services. | | | | |
| | Goods & Services Tax | | | | |
| | Site Area | 2,099 | m2 | | |
| | **Physical Work** | | | | |
| | Environmental Compliance | | | | 38,000 |
| | Enabling Works | | | | 55,000 |
| | Groundworks | | | | 51,000 |
| | Water and Utility | | | | 149,000 |
| | Pavement and Surfacing | | | | 126,000 |
| | Structural | | | | 2,086,000 |
| | Landscaping | | | | 60,000 |
| | Traffic Management | | | | 240,000 |
| | Preliminary and General | 25 | % | 2,805,000 | 701,000 |
| | **Sub-Total (Physical Works)** | | | | **3,506,000** |
| | Land Acquisition - Excluded | | | | |
| | Professional Fee | 18 | % | 3,506,000 | 631,000 |
| | Client-managed Fees - Excluded | | | | |
| | **Total Base Estimate** | | | | **4,137,000** |
| | Contingency | 50 | % | 4,137,000 | 2,068,000 |
| | Rounding | 1 | sum | 5,000 | 5,000 |

**Estimate Summary**
**Option A - Napier Sailing Club Spit**

| Code | Description | Quantity | Unit | Rate | Total |
|---|---|---|---|---|---|
| | **Total Expected Cost Estimate** | | | | **6,210,000** |

**Estimate Summary**
**Option B - 705 Meeanee Quay**

| Code | Description | Quantity | Unit | Rate | Total |
|---|---|---|---|---|---|
| | **Napier City Council - Waka Hub and Pavilion Site Feasibility Assessment** | | | | |
| | **Waka Hub - Option B - 705 Meeanee Quay** | | | | |
| | **Feasibility Option Analysis** | | | | |
| | 28 February 2024 | | | | |
| | Estimated by: Shane Tse | | | | |
| | Verified by: Audrina Stanley | | | | |
| | **Scope of works:** | | | | |
| | •Demolish paving, and fence.<br>•Connection to council provided three water services and utilities.<br>•Build waka hub, storage building and mooring.<br>•Build new pavement, car park and new fence. | | | | |
| | **Basis Of Estimate** | | | | |
| | WSP Waka Hub Optioneering Report V2.0 (2023). | | | | |
| | The estimate is based on the below assumptions to be used by NCC<br>in high level decision making only. BECA recommends the costs of the preferred option are re-visited at the end of each design phase (likely in line with the NZ Construction Industry Council guidelines) as a HOLD POINT. | | | | |
| | **Clarification and Assumptions** | | | | |
| | Based upon current rates to 1st Quarter 2024. | | | | |
| | This estimate is not for budget purpose. It is for high level option analysis of 2 different sites for and including the Waka Hub buildings and mooring. | | | | |
| | The costs for Waka Hub, storage warehouse, and mooring are based upon WSP cost estimates and are assumed equal for both locations. | | | | |
| | Construction programmer duration is based upon 18months. | | | | |
| | **Exclusions** | | | | |
| | Land Acquisition cost. | | | | |
| | Funding risk. | | | | |
| | Ground Improvement provision. | | | | |

**Estimate Summary**
**Option B - 705 Meeanee Quay**

| Code | Description | Quantity | Unit | Rate | Total |
|---|---|---|---|---|---|
| | Water Improvement provision. | | | | |
| | Risk analysis & allowance. | | | | |
| | Escalation beyond the date of estimate - February 2024. | | | | |
| | Insurance Costs. | | | | |
| | Client's administration, legal and finance fees. | | | | |
| | Testing, removal, treatment or disposal of contaminated or hazardous substances. | | | | |
| | Building & Resource Consent Fees. | | | | |
| | Relocation and/ or upgrade of underground services. | | | | |
| | Goods & Services Tax. | | | | |
| | Demolition of existing building and it's foundation | | | | |
| | Demolition of existing sea wall and wharfs | | | | |
| | Build new sea walls and new wharfs | | | | |
| | Land Area | 1,040 | m2 | | |
| | **Physical Work** | | | | |
| | Environmental Compliance | | | | 33,000 |
| | Enabling and Demolition Work | | | | 140,000 |
| | Groundworks | | | | 4,000 |
| | Water and Utilities | | | | 33,000 |
| | Structures | | | | 2,086,000 |
| | Pavement and Surfacing | | | | 69,000 |
| | Landscaping | | | | 41,000 |
| | Traffic Management | | | | 41,000 |
| | Preliminary and General | 25 | % | 2,447,000 | 612,000 |
| | **Sub-Total (Physical Works)** | | | | **3,059,000** |
| | Land Acquisition - Excluded | | | | |
| | Professional Fee | 18 | % | 3,059,000 | 551,000 |
| | Client-managed Fees - Excluded | | | | |
| | **Total Base Estimate** | | | | **3,610,000** |

**Estimate Summary**
**Option B - 705 Meeanee Quay**

| Code | Description | Quantity | Unit | Rate | Total |
|---|---|---|---|---|---|
| | Contingency | 50 | % | 3,610,000 | 1,805,000 |
| | Rounding | 1 | sum | 5,000 | 5,000 |
| | **Total Expected Cost Estimate** | | | | **5,420,000** |