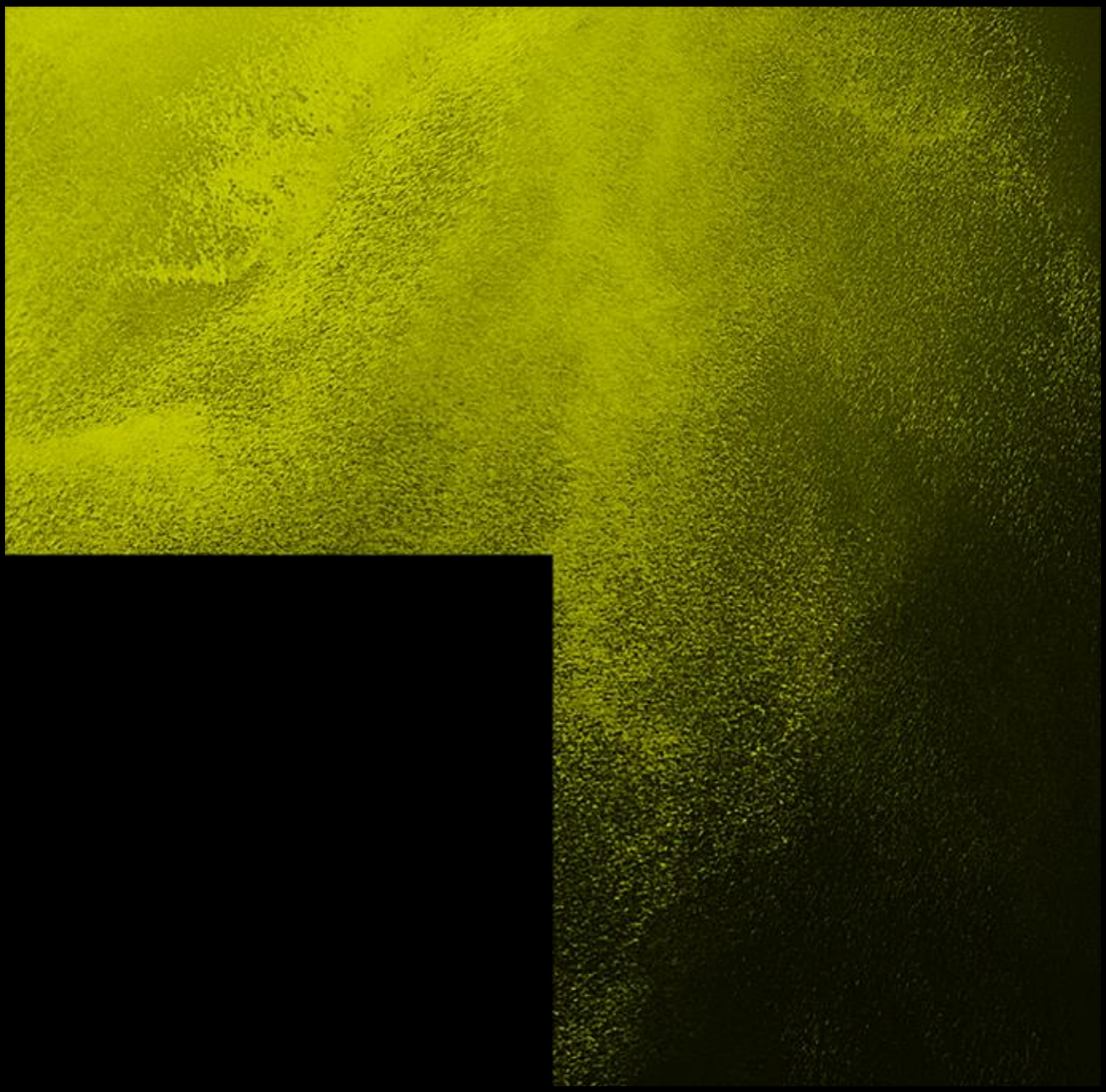
MARINE RECREATION CENTRE

Resource Consent Application and Assessment of Environmental Effects

Kāinga Ora – Homes and Communities



DOCUMENT CONTROL RECORD

CLIENT	Kāinga Ora – Homes and Communities
PROJECT	Marine Recreation Centre
HG PROJECT NO.	1020-143449-01
HG DOCUMENT NO.	R001v9-ak-143449-MRC-RC-Application-sjb-Final
DOCUMENT	

ISSUE AND REVISION RECORD

DATE OF ISSUE	November 2019
STATUS	Final
ORIGINATOR	Sam Benson - Planner
REVIEWED	Nick Grala - Planning Manager
APPROVED FOR ISSUE	Nick Grala - Planning Manager

OFFICE OF ORIGIN	Parnell
TELEPHONE	09 917 5000
EMAIL	s.benson@harrisongrierson.com

CONTENTS

APPENDICES

1.0
THE APPLICANT AND PROPERTY DETAILS

APPLICANT	Kāinga Ora – Homes and Communities
SITE ADDRESS	Launch Road, Hobsonville Point
ADDRESS FOR SERVICE	PO Box 5760
LEGAL DESCRIPTION	Lot 9 Deposited Plan 511649 (RT contained as **Appendix 1**)
COORDINATES	2659709.41 mE
	6488799.96 mN
TITLE LIMITATIONS	No limitations relevant to this proposal
SITE AREA	752m^2 (land-based parcel Lot 9 DP 511649)
	994m^2 (CMA occupation)
REGIONAL AND DISTRICT PLAN	Auckland Unitary Plan: Operative in Part (AUP:OP)
PLAN ZONING	Open Space – Informal Recreation Zone
	Coastal – General Coastal Marine Zone
	Coastal – Coastal Marina Zone
	Residential – Mixed Housing Urban Zone
PLAN OVERLAYS	Natural Resources: High-Use Aquifer Management Areas Overlay – Kumeu Waitemata Aquifer
PLAN CONTROLS	Cable Protection Areas Control
	Coastal Inundation 1 per cent AEP Plus 1m Control – 1m sea level rise
	Macroinvertebrate Community Index – Native & Urban
NATIONAL ENVIRONMENTAL STANDARDS	None relevant
ACTIVITY STATUS	Discretionary
LOCALITY DIAGRAM	

2.0 INTRODUCTION

The applicant (Kāinga Ora – Homes and Communities) is proposing to construct a Marine Recreational Centre (MRC) and water access on the southern corner of Boundary Road and Launch Road in Hobsonville Point. The MRC building will be anchored into the land along the eastern side of Boundary Road but will extend out over the Coastal Marine Area (CMA) on top of piles. The water access will consist of a timber jetty on piles with an aluminium gangway that extends down to a floating concrete pontoon held in place by guide piles.

The MRC will form the new club rooms for the Hobsonville Yacht Club (the 'yacht club') as well as the Westlake Boys High School and Regional Performance Rowing Clubs (the 'rowing club') who are well established users of the area. The proposal will provide all tide water access for the users of the MRC to launch yachts and rowing skiffs but will also provide much needed water access for the general public for their own recreational use.

This application seeks all the necessary coastal permits and resource consents required to enable the construction, use and occupation of the MRC and water access.

We have requested that this application be publicly notified to enable public involvement in the process.

To support this application, the following specialist inputs have been obtained:

- Architecture (Strachan Group Architects (SGA))
- Traffic (Flow Transportation Specialists)
- Construction Noise and Vibration (Styles Group Acoustic and Vibration Consultants)
- Landscape and Visual (Boffa Miskell)
- Ecological (Tonkin and Taylor)
- Engineering Design (Tonkin and Taylor)
- Archaeological (Archaeological Solutions Ltd)

The specialist inputs have found that the effects on the environment by allowing the proposal will be acceptable and the Assessment of Environmental Effects has found that the proposal is consistent with the policy direction of the New Zealand Coastal Policy Statement as well as the AUP:OP.

This report has been prepared to address the applicable information as required by Schedule 4 of the Resource Management Act 1991 (the 'Act') in appropriate detail relative to the scale and complexity of the proposal.

3.0
THE SITE AND SURROUNDING AREA

The site is located on the east facing coastal edge of Boundary Road, extending south and east from the southern portion of The Landing, now called Catalina Bay, at Hobsonville Point. The Landing and Boundary Road are both platforms of reclaimed land that were formed by downcutting from the original coastal edge.

The land-based part of the site is all reclaimed land comprising of a narrow coastal strip along the eastern side of Boundary Road and a grassed area, retained by a stone seawall to the south of the Launch Road Roundabout. There are areas of vegetation and trees scattered along the embankment between Boundary Road and the water's edge.

The seaward side of the site extends over the tidal margin out into the mudflats of Catalina Bay. The foreshore of Catalina Bay consists of mudstone and sandstone with a thin covering of mud, while there are sporadic mangroves scattered alongside coastal edge. There is also a concrete block sunk into the foreshore just east of the sea wall that has been used for the launching of superyachts from the end of Launch Road.

FIGURE 1: Looking south over Catalina Bay with part of the land-based portion of the site in the foreground

To the north of the site is the current yacht club clubroom and the storage area for the rowing club's boats. In the north-western portion of Catalina Bay is the Sunderland hangar building which has been converted into a brewery/bar, co-sharing office space, an historic (but not scheduled) seaplane launching ramp and the Hobsonville Ferry Terminal and wharf. It is also noted that there are resource consents in place and plans to develop two residential apartment buildings on The Landing.

To the west of the site is a densely vegetated embankment which slopes up steeply to Harrier Point.

To the south of the site is the rest of Catalina Bay, which is intertidal and contains areas of mangroves, mudflats and a chenier ridge.

To the east of the site, the main channel has a number of permanent moorings and is a nautical route for ferries and other vessels travelling to the Upper Waitemata Harbour.

In terms of car-parking, there is a significant number of car parks available on Launch Road.

4.0 BACKGROUND

4.1 RECLAMATION OF THE LANDING AND THE ROYAL NEW ZEALAND AIR FORCE

Catalina Bay, previously called The Landing is notable as a highly modified coastal reclamation on the north eastern edge of Hobsonville Point. Downcutting and reclamation created the platform that would become The Landing in the late 1920s to accommodate the base for Royal New Zealand Air Force (RNZAF) seaplane fleet. This included seaplane hangars and launching facilities. The RNZAF occupied the area for military related activity. The land that Boundary Road extending south from Launch Road was then later reclaimed between 1940 and 1950.

Military activity in the area began to phase out towards the end of the 1990's until Hobsonville Point completely dissolved as a military base by 2002 to free up the land for housing and urban development.

4.2 EXISTING WATER-BASED RECREATIONAL USES

Hobsonville Boating Club was formed in 1934 and has used the area ever since (in conjunction with the military until 2002). When the military left Hobsonville Point in 2002, the club became known as Hobsonville Yacht Club (the 'yacht club').

Westlake Boys High School Rowing began to use the area and set up a storage facility in 1996 and have operated from this location ever since. In 2012 they were joined by Rowing New Zealand's Auckland Regional Performance Centre, for development of high-performance rowers. For the purpose of this report, both rowing groups are considered the 'rowing club'.

As shown on **Figure 2** below, the yacht club occupies two buildings at the end of Launch Road along with a storage yard for yachts and equipment. The yacht club currently occupy approximately 1,330m^2 of land immediately adjacent to the CMA. The rowing club occupy approximately 950m^2 of land directly adjacent to the Sunderland hangar building.

Both the yacht and rowing clubs currently use the historical sea plane launching ramp to launch yachts and rowing skiffs into the water. This requires the members of both clubs to carry the yachts and skiffs through Catalina Bay car parking area, across Boundary Road and across the pedestrian walkway along the esplanade reserve.

It is also noted that the decommissioned sea plane launching ramp has structurally deteriorated over time to the point where it is only deemed safe for up to 10 people to be on the ramp at any one time. This means that it is not a viable long-term option to enable water access at Hobsonville Point.

Given the age of the yacht club and the nature of how the club's members launch their boats, the current facilities for both clubs are considered no longer fit for purpose.

Further details of how the clubs operate are described in the Operational Requirements memo contained as **Appendix 2**.

FIGURE 2: Existing occupation and movements by the Yacht and Rowing Clubs

4.3 MIXED-USE TRANSFORMATION

Since 2016, the Hobsonville Land Company and then HLC (2017) Limited (together 'HLC'), now Kāinga Ora have been developing Catalina Bay into a vibrant mixed-use hub comprising of a mix of retail, commercial offices, hospitality and through the refurbishment of the existing buildings. All the uses are centred around the busy ferry terminal which connects Hobsonville Point to downtown Auckland.

The next phase of development involves constructing two new residential apartment buildings in the location of the existing yacht club and rowing club locations, meaning the yacht clubs and rowing clubs need to relocate.

4.4 PUBLIC WORKS ACT AGREEMENT

HLC entered into a Public Works Act (PWA) agreement with the then Waitakere City Council in 2009 when it purchased the Duke Park land and road for housing purposes.

A paragraph in the PWA agreement was requested by the Council, whereby HLC was to make land available for a facility catering to the needs of water based recreational uses and other community uses within Catalina Bay. The agreement specifies the provision of a minimum 400m^2 footprint to facilitate boat storage, a lounge/meeting room and a yacht club start tower.

The agreement clearly states that the location and configuration is at the Crown's discretion and subject to the necessary planning approvals and decisions by the Minister of Housing.

5.0 EXISTING COASTAL PERMITS

5.1 SUMMARY

In 2010, HLC secured coastal permits to enable the development of coastal structures at The Landing. At the time the permits were consented, a superyacht construction and launching facility was planned at The Landing and some of these permits were later transferred over to Panuku Development Auckland.

We have identified the locations of these permits on a marked-up version of the Proposed Coastal Structures and Works Overall Layout plan that was approved back in 2010. A copy of this plan is contained as **Appendix 3**.

The coastal permits are summarised below:

- 37976 – Mangrove Removal
- 37977 – Chenier Ridge enhancement
- 37469 – Capital Dredging over 83,000m2
- 37470 – Maintenance dredging
- 37472 – Temporary structures
- 37449 – 28m long public deck with 13 visitor berths
- 38179 – Ferry wharf
- 36489 – Reconstruction of historic wharf and new boardwalk
- 37452 – Tidal stairs
- 37453 – Seaplane ramp restoration
- 37455 – A 44 berth marina
- 37456 – Boardwalk
- 37457 – Stabilisation of existing masonry seawall
- 37463 – Floating breakwater with 10 superyacht berths
- 37464 – Finishing berth
- 37465 – Superyacht launching facility
- 37466 – Recreational boat ramp with floating pontoon
- 37467 – Beach (including deposition of 7,000m3 of sand)
- 37468 – Artificial headland
- 37639 – Earthworks for park and ride facility
- 37640 – Stormwater discharge

Only some of these permits have been implemented, including some of the mangrove removal, some of the dredging, the chenier ridge enhancement, ferry wharf and boardwalk.

5.2 PERMITS TO BE IMPLEMENTED

To enable the proposed MRC and water access, HLC intend to implement a further extent of the dredging and mangrove removal permits.

PERMIT 37977 – CAPITAL DREDGING

Coastal Permit 37977 authorised the capital dredging over an area of 83,000m^2. The extent of the dredging permit is shown within the 'Hobsonville Point The Landing Preliminary Design Plan' set contained as **Appendix 4**.

Part of this permit has already been implemented to allow all tide ferry access to the ferry wharf. Kāinga Ora intend to utilise this permit again to dredge a further portion of the Catalina Bay foreshore within the bounds of this dredging permit to enable the water access to provide all tide access. This dredging will shorten the length of the water access that is necessary to gain deep water access needed by the rowing and sailing clubs.

PERMIT 37976 – MANGROVE VEGETATION REMOVAL

Coastal Permit 37976 authorised the removal of mangrove vegetation across an area of 1.5ha. Part of this has already been undertaken further south of the site when the chenier ridge in Catalina Bay was enhanced.

We note that a condition of the beach and artificial headland permits (Permits 37467 and 37468) required the mangrove removal to be implemented which suggests the mangroves authorised to be removed extends right up to the site (as this is the location of the beach and artificial headland permits).

Kāinga Ora therefore intend to remove mangroves within the bounds of this mangrove vegetation removal permit to enable the MRC to be constructed.

5.3 PERMITS TO BE SURRENDERED

Panuku Development Auckland have recently transferred the coastal permits they held as part of the 2010 suite of permits back to Kāinga Ora.

In order to obtain the necessary coastal occupation permits required to allow the MRC and water access proposal, Kāinga Ora will surrender the following permits once the necessary permits for the MRC have been obtained:

- 37465 – Superyacht launching facility
- 37466 – Recreational boat ramp with floating pontoon
- 37467 – Beach (including deposition of 7,000m3 of sand)
- 37468 – Artificial headland

This can be facilitated through a condition incorporated into the relevant coastal permits granted for the MRC.

6.0
OPTIONS ASSESSMENT

Over the past 18 months, Kāinga Ora and its project team have worked through various options to establish the MRC within Catalina Bay. These options were identified and evaluated within the context of the regeneration that had already been completed, initiated or committed to within Catalina Bay during 2009 - 2017. A summary of this regeneration, as it stood at the time, is included as **Appendix 5**.

This section summarises the options that Kāinga Ora identified to establish the MRC and integrated water access.

6.1 OPTIONS FOR THE MRC BUILDING

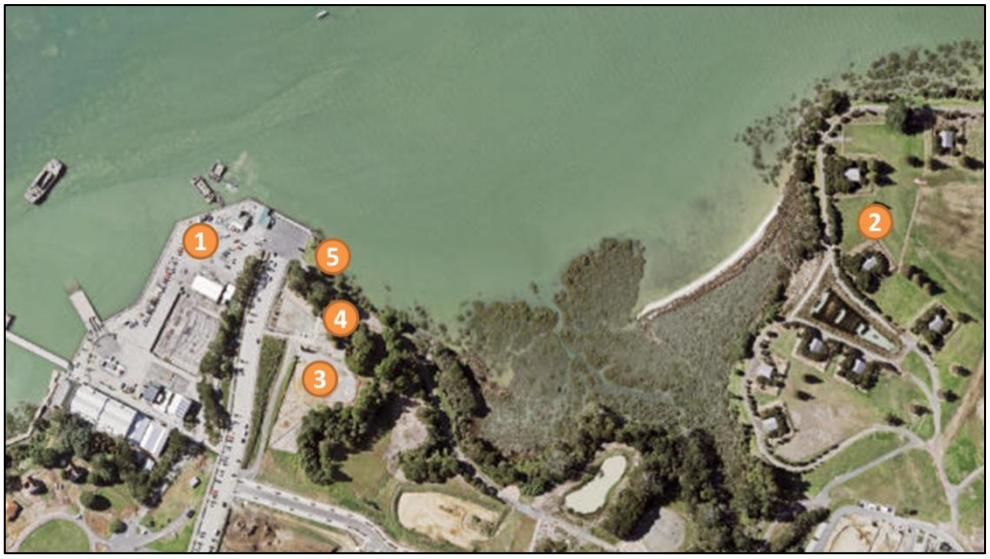


FIGURE 3: Site Plan of MRC location options

Option 1 – Catalina Bay – Reverse sensitivities with the uses planned for Catalina Bay has meant this location is not possible.

Option 2- Bomb Point – The distance to deep water, sight line to racing area and RFR responsibilities mean this location is not possible.

Option 3 – Harrier Point – The distance to water access and sight lines for racing area as well as issues with having to manoeuvre skiffs and boats down Launch Road to water access mean this location is not possible.

Option 4 – Cut out area on the western side of Boundary Road – the size of the cut out would not allow a building of this size to be built.

Option 5 – Proposed location – As all land options have been exhausted and the area requirements for the building have been further understood the only available option is to anchor the building on the land and extend into the CMA.

The proposed location is the most appropriate for its use and will allow for the best land/water interface as well as being an opportunity to build an exemplar facility.

6.2 OPTIONS FOR WATER ACCESS

It was necessary to consider that yachts (with keels) would need to access the facility, meaning deep water access (to a clear water depth of 1.6m at all tides) needed to be factored in.

It was initially intended to locate the water access to the north of the Launch Road roundabout as deep water could be reached in the shortest possible distance.

Initial options involved extending the water access out in a north-eastern direction from where the existing yacht clubrooms are. These options were discounted as it was decided that the location of the access was too close to the consented apartments and could adversely affect occupants due to potential disturbance from early morning rowing activities.

Additional options were then considered in closer proximity to the MRC facility. Due to shallow water depths close to the facility, it was considered to split the water access in two, allowing yachts with keels to berth in deep water at the tip of a fixed height jetty with step ladder further north. A separate gangway to a floating pontoon for rowers and smaller yachts would be provided closer to the MRC facility location. This option would have also required additional dredging to allow the pontoon to float and was discounted when advice from Auckland Council (as a potential future asset owner) suggested the water access should be all part of the one facility to reinforce the purpose of the building.

It was then decided to design the water access to accommodate all users of the MRC facility and extend directly out towards the channel.

This included an option to extend the access right into the channel from the MRC without the need for any dredging. This option was discounted because the jetty length would extend approximately 140m out into the CMA, requiring additional piling and with a higher construction cost, which meant that it was not economically viable.

The preferred option (proposed in this application) was considered the preferred and most practicable option. This option keeps the water access close to the MRC centre with piling for the jetty only required for a distance of 40m. This option would also reach deep enough water through utilising the existing dredging Coastal Permit 37977.

7.0
THE PROPOSAL

The proposal represents the most preferred and best practicable option to establish the MRC within Hobsonville Point. The details of the proposal are set out in this section.

7.1 THE MRC BUILDING

The proposed MRC building will be located along the eastern side of Boundary Road. The building will be anchored on the land and will extend out into the CMA, elevated above the high tide water level on timber and concrete piles (comprising 11 in total). The building has been placed as far as practical onto the land to reduce the extent of piling required and the extent of the building sitting over the CMA.

FIGURE 4: The MRC building as will be viewed from the end of Launch Road (Source: SGA)

The building has been architecturally designed by Strachan Group Architects (SGA) and is detailed in the SGA Plan Set contained as **Appendix 6**. The design is two storeys, with the roof form sloping down towards the water, following the natural contours of the land.

As explained in the Design Report (contained as **Appendix 7**), the MRC has been designed to focus the bulk of the building towards the landward side enabling the slope of the hill and the vegetation behind to remain visible from the water.

The cladding will utilise a recessive colour palette consistent with the natural landscape and vegetation in the area with a lighter façade on the seaward edge.

The ground floor of the building will contain storage areas for yachts and rowing skiffs along with changing and toilet facilities. The first floor of the building will contain two meeting rooms, additional toilet facilities, a kitchen/bar and a function space that opens out to a deck area that faces out to the north-east. The deck area will act as a start tower and a viewing platform for spectators to watch yacht races on the harbour.

FIGURE 5: The MRC building as will be viewed from the water (Source: SGA)

7.2 PREPARATION DECK

Integrated into the design of the MRC building will be a boat preparation deck between Launch Road and the MRC building. This will provide an area for the yacht club to rig and de-rig yachts.

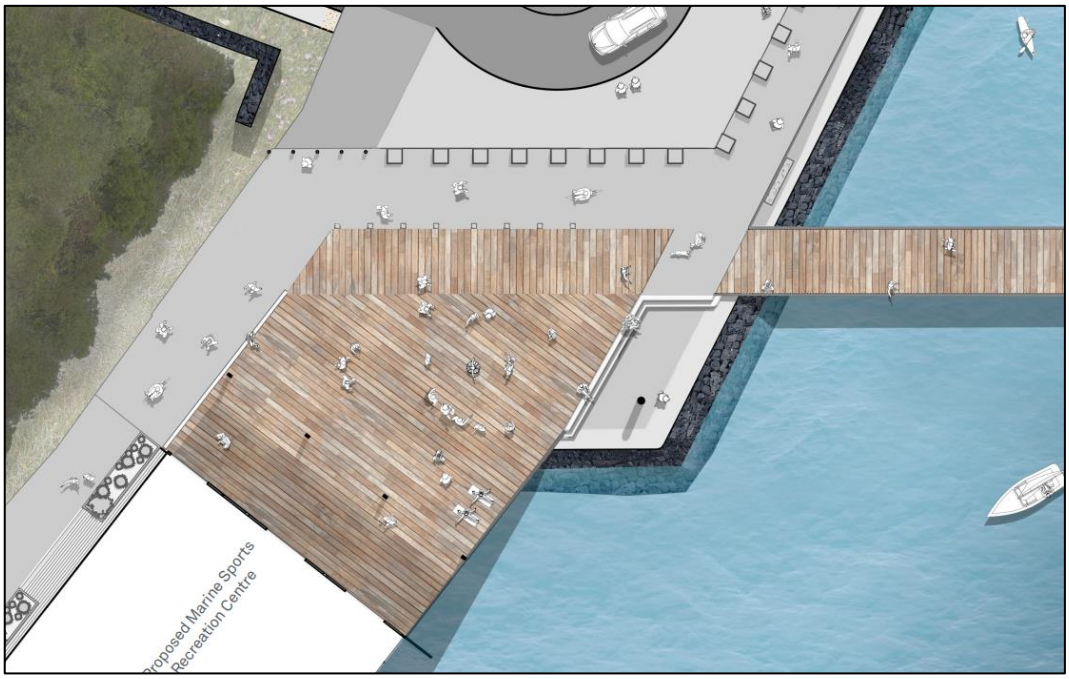


FIGURE 6: Aerial view of the preparation deck (Source: SGA)

The deck will be built mainly on land but will extend over the CMA down to the MRC building. The deck will be delineated from the drop-off zone and Launch Road roundabout by square concrete bollards. It will be accessible to the general public at all times.

7.3 WATER ACCESS

The water access is detailed in the Jetty Drawings contained as **Appendix 8** and described in the Engineering Design Report contained as **Appendix 9**.

Water access will be achieved via a four-metre-wide timber jetty that extends from the northern end of the preparation deck approximately 42 metres into Catalina Bay (and

towards the deep-water channel). The jetty will be supported by approximately 22 x 300Ø timber piles.

From the end of the timber jetty, a 3-metre-wide aluminium gangway will extend a further 30 metres into the CMA to a 250m^2 floating pontoon held in place by 5 guide piles which will most likely be timber piles sleeved with high-density polyethylene (HDPE) pipe. The pontoon will allow access at varying states of the tide and will not ground at the lowest astronomical tide (LAT).

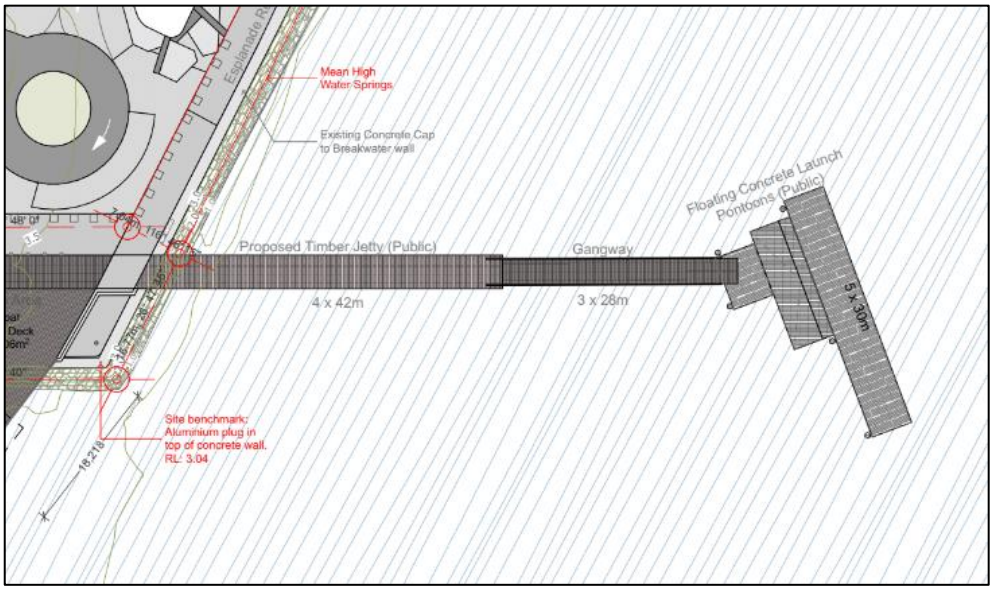


FIGURE 7: Aerial view of the water access (Source: SGA)

7.4 SERVICING

The proposed servicing for the MRC Centre is outlined in the Civil Infrastructure Assessment contained as **Appendix 19**.

In summary, stormwater runoff generated by the roofs will be captured and conveyed by a new private network to a new public line extending from existing drainage lines at the bottom of Launch Road.

Wastewater flows generated from the proposed building will be captured and conveyed via a proposed private network to a new DN150 public line extending from the Catalina Bay development.

An extension to the existing DN180 network on Launch Road will be constructed to provide water supply for the proposed development. A DN100 line will be extended from the existing network to a new building service connection for the development.

Power and telecommunications lines will be extended from existing networks on Launch Road to service the new building.

7.5 LAND MODIFICATION

The proposal involves a maximum cut of 111m^3 across a maximum area of 387m^2 on the land to construct the foundations for the building and allow for the construction of the preparation deck.

Appropriate sediment and erosion control measures will be in place to ensure the proposed earthworks are permitted under the AUP:OP.

7.6 TRANSPORT

The transport requirements for the users vary between the yacht club and the rowing club and are outlined in the Operational Requirements memo contained as Appendix 2.

The majority of the members of the MRC users are expected to be dropped off by parents at the loading bay at the end of Launch Road. The remaining members and coaches will drive and park on the available car parks on Launch Road or travel by bus or alternative means of transport (bicycle, scooter, walking).

There will be no parking constructed as part of the MRC application as this would need to be accommodated in the CMA, which is not a good outcome when it can be accommodated within the road network.

A total of 12 short-stay bicycle parks are being proposed (with six being located next to the entrance to the building and six being located between the concrete bollards). Long-stay bicycle parks can be accommodated within the ground floor of the building if required.

There will be occasions (up to 22 times a year) that the rowing club will need to reverse a trailer down Boundary Road to load and unload skiffs from the MRC so they can be transported to regattas. Loading would typically occur on a Thursday afternoon before a regatta and unloading would typically occur on a Monday or Tuesday morning at 5am. This would be similar to how service and maintenance vehicles access Boundary Road and are still able to allow free access for pedestrians to pass.

7.6.1 MRC MANAGEMENT PLAN

A management plan (the 'MRC Management Plan') will be submitted to council prior to occupation of the MRC facility to ensure pedestrian and cyclist access along Boundary Road is maintained at all times.

The framework for the MRC Management Plan is contained as **Appendix 10** and summarised below:

General Loading and Servicing

All general loading and servicing should occur via the P5 loading space on the Launch Road roundabout or alternatively use the existing general parking on Launch Road. This applies to dropping off and picking up people, waste collection and delivery or collection of general provisions for the MRC (including food and beverage or other supplies).

Transportation of Row Boats

Unloading and loading of row boats for regattas will involve a trailer reversing down Boundary Road. The vehicle and trailer must be parked, leaving at least 2m space for pedestrians and cyclists to pass down Boundary Road.

- A requirement to ensure a space with a minimum width of 2m is provided around the trailer for pedestrians and cyclists to pass.
- Some form of delineation so approaching pedestrians and cyclists can see and are separated from the trailer and loading activities (road cones with bars between). A spotter will also be required whilst the vehicle is reversing to ensure the activity is controlled and safe for pedestrians
- Temporary advance warning signage to alert pedestrians, and particularly cyclists to the approaching activity, and encourage them to slow down.

- Suitably qualified people must be responsible for ensuring the management plan is followed every time the trailer is loaded or unloaded.

Sailboat Transportation

To allow yachts to be shifted from the south-western end of the building to the preparation deck. The following measures will be in place to ensure pedestrian and cyclist safety:

- Temporary advance warning signage to alert pedestrians, and particularly cyclists to the approaching activity, and encourage them to slow down.
- Boats shall always be transported in single file, located to one side of Boundary Road.
- Suitably qualified people must be responsible for ensuring the management plan is followed every time the boats are shifted to the preparation deck.

7.7 CONSTRUCTION METHODOLOGY

The construction methodology is outlined in Section 4 of the Tonkin and Taylor Engineering Design Report contained as Appendix 9. The methodology will be dependent on the final detailed design and can also be updated by the awarded contractor.

Construction of the water access jetty and MRC facility sub structure (that the building will be constructed on) will involve the installation of concrete and timber piles into the foreshore/seabed area. These will likely be installed into pre-drilled holes, and if soft marine sediments exist on the surface, the contractor will require a steel casing being installed around the pile location, with the casing being removed following installation of the pile.

Piling is likely to be carried out with land-based piling equipment operation from temporary staging, although some of the piles will be installed by piling crane operation from a barge.

All excavated pile spoil will be removed from the CMA and will be disposed of off-site at an approved disposal site.

A typical method for the construction of the water access jetty and pontoon is described in further detail in the Engineering Design Report.

7.7.1 CONSTRUCTION MANAGEMENT PLAN

A Construction Management Plan (CMP) will be submitted to council prior to works commencing. The CMP will include measures to minimise environmental effects including:

- Visual monitoring prior to commencing and during piling operations to ensure there are no marine mammals in the area;
- Shutting down procedures if a marine mammal is identified within the project area;
- Using ‘soft starts’ (gradually increasing the intensity of piling) and minimising duty cycle;
- Biosecurity protocols to identify and minimise the risk of spreading unwanted/biosecurity risk species;

- Controls on piling activities to prevent spills into the marine environment.
- Use of silt curtains during piling if sediment suspension becomes more than minor

8.0 CONSULTATION

8.1 IWI CONSULTATION

Over the last 12 months, Kāinga Ora have been working with Te Kawerau a Maki and Ngati Whatua o Kaipara to discuss the proposed MRC.

The first concept plan was tabled at a meeting held on 19 October 2018, feedback from this meeting was that it was understood why there is a social need for the MRC but was not viewed favourably from an iwi perspective.

A second iteration was tabled at a meeting held on 30 November 2018. The feedback at this meeting was to ensure there was an emphasis on natural materials in the design and how to minimise occupation in the CMA with both the building and the water access.

Subsequent meetings were held on 21 February, 7 March, 30 May, and 3 October 2019. At these meetings Kāinga Ora provided general updates on the project and presented responses to the previous feedback. These responses included founding the building on the land as much as possible without impeding on the coastal walkway along Boundary Road and changing from timber to concrete bearers and cantilevering the seaward side of the building to minimise the piles in the CMA to 11. This new design was viewed more favourably.

The only unresolved concerns at this stage are around privatisation of the CMA and ensuring public access to the building as a facility for the wider community.

Letters were also sent out on 2 August 2019 to wider iwi groups to seek their feedback as group(s) with registered customary interests under the Marine and Coastal Area (Takutai Moana) Act 2011, no feedback was received.

8.2 STAKEHOLDERS / ASSET OWNER

It is envisaged that the water access structures will be vested with Auckland Council as a public asset once it has been constructed. The MRC building and preparation deck is envisaged to be owned, maintained and managed by the MRC Trust. The MRC Trust is comprised of the rowing club and the sailing club.

8.3 DESIGN REVIEW PANEL

The design of the proposal went through the Hobsonville Point Design Review Panel (DRP) before the final design was reached.

A preliminary design was presented to the DRP at a meeting held on 28 June 2019. A copy of the memo from this meeting is contained as **Appendix 11**. The panel generally supported the preliminary design but made several suggestions including:

- Adjustment of the balcony to orient to the sea and align with the jetty geometry;
- Extend the alignment of the jetty timber decking right back to launch road to better express the lineal quality of the jetty and connection to the coastal promenade.

SGA incorporated these changes and the proposed design was presented to the DRP at a meeting on 2 August 2019. Panel members Jon Rennie (chair) and David Irwin were present at the presentation and support the proposal as presented for resource consent.

8.4 COMMUNITY ENGAGEMENT

HLC and now Kāinga Ora have provided updates to the Hobsonville Point community during the design process. This has included sending out information in several newsletters to the community describing the proposal

No feedback was sought on the concept or design of the proposal, but it is anticipated that feedback will be received through the notification of this application.

8.5 HARBOUR MASTER

Consultation with the Auckland Harbour Master has been initiated by sending the proposal through for review and comment. We have yet to receive any feedback on the proposal at the time of preparing this application.

8.6 PRE-APPLICATION DISCUSSIONS WITH AUCKLAND COUNCIL

8.6.1 PRE-APPLICATION MEETING 29/07/2019

A pre-application meeting for the proposal was held on 29 July 2019 to discuss the consenting strategy for the application and receive initial feedback from the Council's specialists. From Council, the meeting was attended by Michael Treacy (planner), Nagaraj Prabhakara (traffic engineer), Kala Sivaguru (coastal specialist), Wendy Zappart (parks planner) and Maylene Barrett (parks planner). A copy of the meeting minutes are contained as **Appendix 12**.

Consenting Strategy:

The applicant explained how it intended to vary several of the existing coastal permits to enable the proposal as several of them were physically similar to the MRC and water access proposal. Council advised that Kāinga Ora should apply for new permits and surrender the existing permits as the purposes of the existing permits were for completely different uses (i.e. superyacht launching and marinas) to what is being proposed.

Policy Considerations (MRC building):

It was agreed between the applicant and council that the MRC building would be considered a clubroom under the AUP:OP, which is anticipated as a discretionary activity in both the General Coastal Marine Area (GCMA) Zone and the Open Space – Informal Recreation Zone. It was raised by council that activities that don't have a functional or operational need to be undertaken or located in the CMA should be avoided. Council recognised that the yachting and rowing club needs to be in close proximity to the water, but questioned whether it actually needs to be in the CMA, noting that it would be important that the application clearly demonstrates that:

a) The building needs to be located in the common marine and coastal area and cannot practicably be located on land outside of this area;

b) The building will not conflict with marine activities;

c) Public access to the coast will be maintained and amenity values will be enhanced; and

d) The building will not compromise natural character and ecological values of the coast.

The meeting minutes provided reflected Council's concerns that the building does not have a functional or operational need to be located in the CMA, and suggested that the

application may trigger public notification given the public would be excluded from part of the water space.

Policy Considerations (water access):

Council advised that the gangway and pontoon are permitted in the Coastal Marina Zone (considered marine and port accessory structures), but that the jetty would be considered a marine and port facility structure which is a **discretionary** activity in the Coastal Marina Zone.

Council suggested that because the proposed use/occupation of the water access is significantly different to the proposed use/occupation of the existing coastal permits, that a section 127 application to vary the permits would not be suitable in this case.

8.6.2 SUBSEQUENT MEETING WITH AUCKLAND COUNCIL

A subsequent meeting with the Auckland Council planners was arranged following the release of the pre-application minutes, which confirmed the concern around the functional need of the MRC to locate within the CMA and added a subsequent comment that to do so would go against the policy direction of the AUP that could not be supported.

The meeting was an opportunity to review the policy direction of the New Zealand Coastal Policy Statement as well as the AUP and present our interpretation of this policy direction in the context of the MRC and Catalina Bay (our interpretation was in line with what has been set out within section 10.3.1 of this report).

The meeting was useful in that it enabled the full background of the MRC to be presented to the Auckland Council planners (to a greater level of detail that was able to be canvassed within the pre-application meeting). This added background, along with the detailed review of the policy direction, resulted in their 'in principle' support to the MRC proposal provided that this was able to be suitably outlined within the application (and other concerns such as pedestrian conflict and parking effects were also able to be suitably assessed).

9.0
REASONS FOR THE APPLICATION

9.1 AUCKLAND UNITARY PLAN: OPERATIVE IN PART

9.1.1 AUP: OP ZONING

The site extends across several zones including the Residential – Mixed Housing Urban, Open Space – Informal Recreation, Coastal – Marina (CMZ), and General Coastal Marine (GCMZ) (refer **Figure 8** below).

This means that we have applied the respective rules, objectives and policies of each zone to the relevant parts of the MRC – with the exception of the Residential – Mixed Housing Urban Zone because only bollards are proposed within this zoning.

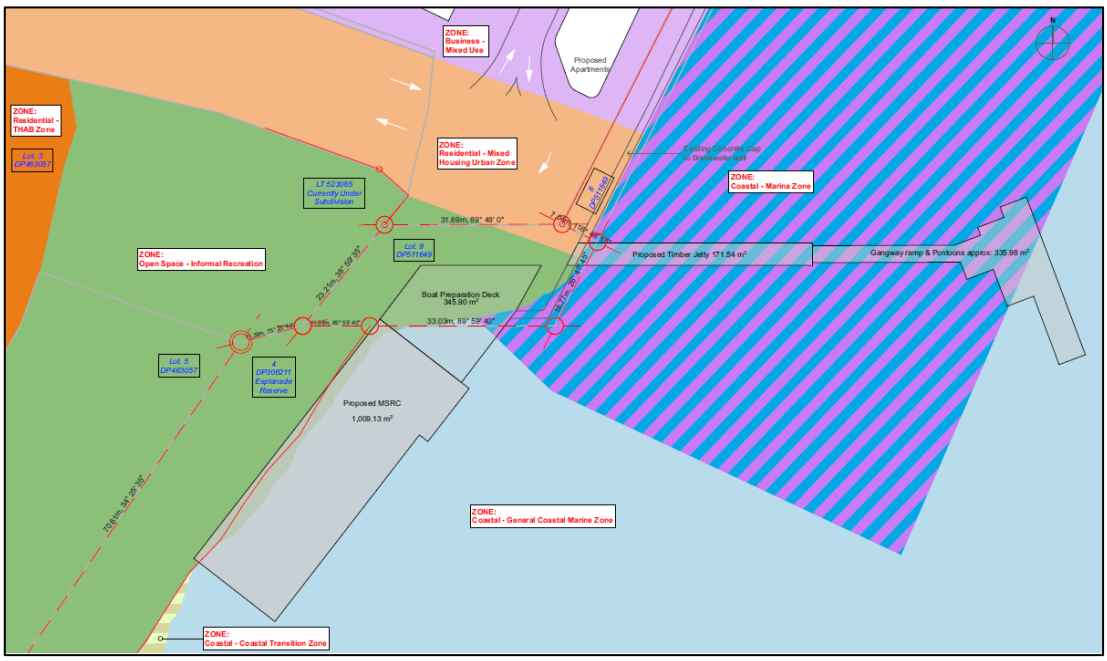


FIGURE 8: The proposal overlaid on the AUP:OP Zoning map

9.1.2 AUP: OP ASSESSMENT

ASPECTS THAT ARE PERMITTED

TABLE 1: OPERATIVE DISTRICT PLAN PERMITTED ASPECTS

RULE/STANDARD	REASON FOR COMPLIANCE
E12.4.1(A3) & (A7)	Up to 500m^2 and 250m^3 of land disturbance in open space zones is a **permitted** activity. The application involves a maximum cut of 111m^3 across a maximum area of 387m^2 in the informal recreation zone to construct the foundations for the MRC building.
E25.4.1(A1)	Activities that comply with all the relevant permitted activity standards for construction noise and vibration is a **Permitted** activity. The CNVA confirms that the construction of the proposal will meet the permitted standards.

TABLE 1: OPERATIVE DISTRICT PLAN PERMITTED ASPECTS	
RULE/STANDARD	**REASON FOR COMPLIANCE**
F2.19.8(A83)	Use of the coastal marine area not otherwise provided for in the plan that does not involve occupation of the common marine and coastal area is a **Permitted** activity. The application involves a water access in the GCMZ and the CMZ which will be open for public access and not exclusively occupied by the applicant.
F3.4.3(A24) for occupation under s12(2)	Marine and port accessory structures in the CMZ are a **Permitted** activity. The application includes a gangway and pontoon structures in the CMZ which are considered marine and port accessory structures.

REASONS FOR CONSENT

TABLE 2: OPERATIVE DISTRICT PLAN INFRINGEMENTS		
RMA CONSENTS REQUIRED	**AUP: OP CONSENTS REQUIRED**	**DESCRIPTION**
E27 – Transport		
E27.4.1(A2)		Parking, loading and access which is an accessory activity, but which does not comply with the standards for parking, loading and access requires resource consent as a **Restricted Discretionary** activity. The application does not provide any on-site car parking for the proposed club rooms.
E27.4.1(A3)		Any activity which exceeds the trip generation standards set out in Standard E27.6.1 requires resource consent as a **Restricted Discretionary** activity. It is expected that up to 265 vehicles may be expected during one-off club events.
F2 – General Coastal Marine (GCM) Zone		
S12(1) for construction	F2.19.4(A37)	Coastal marine area disturbance in the GCM Zone not otherwise provided for requires resource consent as a **Discretionary** activity. The application involves disturbing the GCMZ to enable the piling works for the pontoon guide piles and MRC structure piles.
s12(3) for use	F2.19.8(A104)	Clubrooms for marine-related clubs in the GCM Zone require resource consent as a **Discretionary** activity. The application involves constructing a club room for the use of the Yacht Club and the Rowing Club (which are marine-related clubs) in the GCMZ.
s12(2) for occupation	F2.19.10(A121)	Coastal marine area structures and buildings in the GCM Zone, unless provided elsewhere require resource consent as a **Discretionary** activity. The application involves constructing part of the preparation deck and the pontoon water access & piles within the GCMZ.
F3 – Coastal Marina Zone		
s12(2) occupation	F3.4.3(A28)	Coastal marine area structures or buildings in the CMZ not otherwise provided for require resource consent as a **Discretionary** activity. The application involves constructing a jetty on piles within the CMZ which is not provided for elsewhere in the CMZ.

TABLE 2: OPERATIVE DISTRICT PLAN INFRINGEMENTS		
RMA CONSENTS REQUIRED	**AUP: OP CONSENTS REQUIRED**	**DESCRIPTION**
Resource consents for construction and use of the water access are not covered under the CMZ and so the GCMZ activities apply. The foreshore/seabed disturbance is therefore covered by F2.19.4(A37) for construction (already being applied for) and the use of the access is permitted under F2.19.8(A83).		
H7 – Open Space informal recreation zone		
(s9(1)(a) RMA)	H7.9.1(A10)	Clubrooms in the Informal Recreation Zone require resource consent as a **Discretionary** activity. The application includes constructing a club room in the informal recreation zone.

Overall, the proposal requires assessment under the AUP:OP as a **Discretionary** activity.

CONSENT DURATION

a) Use and Occupation

A maximum term of 35 years is sought for the **use of and occupation** of space by all of the coastal structures. The maximum term is considered appropriate given the long-term vision for the area and the on-going demand for the structures proposed.

b) Construction and disturbance

A maximum duration of 10 years is sought for the **construction and disturbance** activities.

LAPSING

Pursuant to s125(1) of the Act, a lapse period of 10 years is sought.

9.2 APPLICABLE NATIONAL ENVIRONMENTAL STANDARDS

No consents are being applied for under any National Environmental Standards.

9.3 STATUS OF THE APPLICATION

Overall, the proposal requires assessment as a **Discretionary** activity.

10.0
SCHEDULE 4 INFORMATION REQUIREMENTS

10.1 ASSESSMENT AGAINST PART 2 OF THE ACT

Sections 5 to 8 of the Act contain its purpose and principles. The proposal will be an appropriate and sustainable use of the site (and consistent with these sections) because:

- With regard to section 5(2), the proposal will provide significant social benefit to the Hobsonville Point community by providing all tide water access which is currently not safely provided for in the area. The MRC building will also provide a public benefit with the general public being able to enjoy the preparation deck area and the function room and deck upstairs when the clubroom is open.
- With regard to section 5(2)(c), the proposal will secure the future of the yacht club and the rowing club, which are important community and social assets for Hobsonville Point. The proposal will considerably improve the clubs' functionality with minimal impact on environmental values.
- With regard to section 5(2), the proposal will provide for the health and safety of the users of the MRC by improving the safety of their day to day operation. The users will no longer have to carry their yachts and skiffs through a busy car park and launch into the water via a structurally deteriorating boat ramp. The proposal will instead separate the movements of the users of the MRC from all vehicular traffic and provide safe water access to the water via a new jetty.
- With regard to section 5(2)(b), the proposal has been designed to have minimal impact on the coastal environment by extending the wharf right out to where the existing dredging permit extends. No additional dredging is required, above what is already consented to provide all tide water access for the users of the MRC as well as the general public.
- With regard to section 5(2)(a) and Section 6(a), the proposal will protect natural and physical resources by constructing the building and wharf on piles to minimise disturbance to the foreshore and seabed and therefore safeguarding the life supporting capacity of the water and ecosystems in the area. As such no seabed or foreshore reclamation is required for the proposal.
- With regard to section 5(2)(c), the effect of exclusive occupation of the CMA by the MRC building is mitigated by providing all tide water access and a functional decking area for the community and general public.
- With regard to section 6(a), the proposal has been architecturally designed to mitigate adverse visual effects on the environment by sloping the building back towards the land. The majority of the building bulk is concentrated on the landward side of the building and the proposed colour palette will blend in with the natural landscape.
- With regard to section 6(b), the site has not been identified as having outstanding natural features or landscapes which have been identified in other coastal locations around the Waitemata Harbour.
- With regard to section 6(c), the proposal does not involve the removal of areas of significant indigenous vegetation. There will be some mangroves removed, but these have already been authorised to be removed under coastal permit 37976.

- With regard to section 6(d), the proposal will enhance public access to the CMA by providing all tide water access to the general public, which is currently not safely provided for at Hobsonville Point.

- With regard to section 6(e), the applicant has sought to engage the local iwi groups for input into the proposal but has received no formal feedback. There will be a further chance to incorporate the relationship of Maori and their culture and traditions with the water through the notification process.

- With regard to section 6(f), the proposal will not impact on any historic heritage values.

- With regard to section 6(h), the proposal has incorporated resilience from natural hazards through its design.

- With regard to section 7(c) the proposed development has regard to maintaining amenity values through design being sympathetic to the natural coastal environment by sloping the building towards the land and using a natural colour palette.

- With regard to section 7(d), the proposed construction methodology has particular regard to ensuring the values of ecosystems are not compromised.

- With regard to section 7(i), the proposal has regard to the effects of climate change by locating the structures on piles to allow for sea level rise. The Design Engineering report has also found that the proposal will have a negligible effect on sea-level on the upper reaches of the Waitemata Harbour.

- With regard to section 8, the proposal has taken into account the principles of the Treaty of Waitangi by seeking to engage local iwi groups in the design stage of the proposal.

10.2 ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

Section 104(1)(a) and clause 2(3) of Schedule 4 requires an assessment of the activity's effects on the environment. The detail of this should correspond with the scale and significance of the effects that the activity may have on the environment.

The following assessment includes, where relevant, the information required by clause 6 and the matters outlined in clause 7.

The existing environment is a relevant consideration for this assessment.

In this case, the existing environment comprises the surrounding coastal and land environment (as described in section 3 of this report) and also its potential to be developed in accordance with the zone provisions.

The existing environment also includes the existing operation of the rowing and yacht clubs as outlined in section 4.2 of this report as well as the consented future apartment buildings described in section 4.3 of this report.

For the discretionary regional consents sought to enable the construction in, use of and occupation of the CMA, Council reserves unlimited discretion, but will consider the policy direction outlined in the NZCPS and the relevant coastal provisions in the AUP:OP.

When considered in the context of the existing environment, the actual and potential effects on the environment by allowing the activity are assessed under the following sections.

10.2.1 POSITIVE EFFECTS

MRC Users

The proposal will significantly improve the efficiency and functionality of both the yacht and rowing club which are both well-established occupants and marine users of the area.

The proposal is an integrated facility that has been comprehensively designed to improve the way in which these users can operate out of the facility. It does this by providing a safe, and sheltered storage area for yachts and rowing skiffs with an efficient internal layout to maximise capacity.

The MRC location was chosen as a base for the yacht and rowing clubs given the clubs reliance on a water edge location and water access. It was necessary to incorporate a start tower (as required by the PWA) and viewing deck that could overlook the harbour in which regattas and trainings would be held and the MRC will achieve this.

Proximity to a launching area was also extensively considered through the options analysis. The proposal will provide access for carrying yachts and skiffs from the internal storage areas to the preparation deck with minimal disruption to the public. The preparation deck will provide an area for yachts to be rigged and de-rigged clear of both pedestrian and vehicular movements.

The users of the MRC will also be able to carry the yachts/skiffs to the jetty and down to the pontoon without having to cross through any car park or vehicle accessways, eliminating the potential for conflicts with vehicle movements.

Public benefit

The yacht and rowing clubs are also well-established clubs in the Hobsonville Point community, and the MRC and water access will provide a suitable viewing platform for members of the community to enjoy watching the sailing.

The proposal will provide the Hobsonville Community (and the wider general public) with all tide water access via the jetty and pontoon. Currently, the only all tide access is provided by the historic seaplane launching ramp, which has structurally deteriorated to the point that only 10 people may use it at any one time. This means that it cannot be viewed as a long-term option to provide water access at Catalina Bay.

The new pontoon at the end of the jetty will float with the tide so that it can be enjoyed by swimmers, fisherman, paddleboarders, sightseers and other people wishing to access the water.

Auckland Council commissioned Bespoke Landscape Architects to prepare a Water Access Report for the Upper Harbour Local Board (contained as **Appendix 13**) identified Hobsonville as having a 'geographic gap' for water access. The report identified Catalina Bay as a 'high priority opportunity' for water access for sport and recreation.

The proposal will therefore capitalise on the opportunity to provide water access and fill the geographical gap that has been identified for Hobsonville water access.

10.2.2 CMA OCCUPATION EFFECTS

The exclusive occupation of the MRC building has the potential to create adverse effects regarding the loss of public access to the CMA.

The MRC building will be exclusively used by members of the yacht and rowing clubs which creates a potential adverse effect arising from the loss of publicly accessible CMA foreshore/seabed. The CMA area that the MRC will occupy currently consists of

mudflats, mangroves and vegetation that is not easily accessible to the public (as shown in **Figure 9** below).

FIGURE 9: Location of the proposed MRC building in the CMA

Access down to the CMA from the land is heavily restricted by a steep rock sea-wall as well as dense vegetation flanking the eastern edge of Boundary Road (as shown in **Figure 10** below). Access by boat to the area is also heavily restricted given the long distance across more than 120m of intertidal mudflats to the channel.

FIGURE 10: Vegetation between Boundary Road and the MRC building location

As such, the CMA extent to be taken up for exclusive use by the MRC is not easily accessible nor likely to be highly used by the public – largely avoiding any potential adverse effects associated with CMA occupation.

The proposed deck area, jetty, gangway and pontoon will be open to the public and not used exclusively by the users of the MRC. This provides a safer and more appealing alternative access to the CMA than the existing area proposed to be occupied by the

MRC building. The water access will also provide all-tide access to the water which is not currently safely provided for in Hobsonville Point.

When considering the value to the public of the CMA area to be occupied by the MRC and the mitigation in terms of the increase in public amenity gained by the water access, the effects of the loss of CMA to exclusive occupation is considered to be no more than minor.

10.2.3 NATURAL CHARACTER, LANDSCAPE AND VISUAL AMENITY

A Landscape and Visual Effects Assessment (LVEA) (contained as **Appendix 14**) has been prepared by registered landscape architects at Boffa Miskell to review the SGA designed MRC Centre and water access.

The LVEA considered the existing environment, including the location of the site and the wider landscape/seascape context as well as taking into account the envisioned/consented development in the nearby area.

The LVEA noted that the proposed building is set against and below the vegetated headland escarpment of Harrier Point, which restricts the extent of the visual catchment of the proposal from landward locations.

Landscape

There are no identified areas of landscape significance or character in the proximity of Catalina Bay and the subject site and there are no specific landscape protection overlays covering the Upper Waitemata Harbour.

It is noted that Catalina Bay has a long association with water access, being originally formed through reclamation to support the amphibious aircraft of the NZ Airforce.

The nearby proposed residential apartment buildings will consolidate and extend the already established and highly modified land and-water interface of the locality.

The proposed structures, including the jetty/pontoon and the MRC building, will slightly extend the built-up coastal edge at Catalina Bay but will also reinforce the maritime character of Catalina Bay. It is also noted that the building will remain strongly backdropped by the well vegetated landward escarpment being Harrier Point.

A small amount of previously planted and naturally regenerating native coastal vegetation will be removed, but the LVEA considers this to be of small stature and not of note in the context of the extensive harbour edge enhancement underway at Hobsonville Point.

The LVEA considers the proposal to sit comfortably within the landscape context with a low level of prominence and a dominant landward backdrop, fitting in with the strong sense of water focussed development at Catalina Bay. The proposal was expected to reinforce the coastal public amenity of Hobsonville Point.

Natural Character Effects

The effects of the proposal on natural character has also been considered in the context of a somewhat already modified coastal environment. It was recognised that the previous coastal permits in the area contemplated more industrial water-based boat launching structures, meaning the presence of structures in this coastal location has been foreshadowed for some time. The LVEA considers that the proposal will follow a pattern of coastal edge development which has been long established at Catalina Bay.

The design of the proposal was determined to be sympathetic to the vegetated coastal escarpment backdrop.

As such, the LVEA considers that the proposed MRC structures will not be inconsistent with the already modified natural character of this part of the Upper Harbour coastline.

The proposal will have a limited additional impact in terms of the natural character of the coastal environment and will fit in with the range of coastal modifications in the area including boardwalks, coastal walkways, roads and built development.

Visual amenity effects

The LVEA considered the visual amenity effects of the proposal from a range of viewpoints. It was identified that the MRC and associated structures would be viewed by people using the adjacent public walkway that passes to the rear of the MRC building, people accessing Catalina Bay via Launch Road as well as, to a lesser extent and from a more distant location, ferry users and people on boats in the upper harbour channel.

Viewpoint 1 – Launch Road & Roundabout

The approach down Launch Road allows long-distance views over the Harbour channel to the south east, back towards the Isthmus of Auckland. The proposed jetty has been designed to lie on axis with Launch Road to maintain an open view of the navigation channel and the upper harbour landscape. To the right of this view, the end of the MRC building with its open deck and the walkway extending around the coastline (Boundary Road) will be visible.

The LVEA assessed the adverse visual amenity effects to be 'Low to Very Low' considering the association of the area with recreational water access and structures, associated with the public amenity benefits in terms of access to the water edge and continued enablement of public water-based recreation.

Viewpoint 2 – Boat View to Launch Road from Catalina Bay

When viewed from the Upper Harbour Channel the LVEA considers the proposal to be in line with the expectations of water-based viewing audiences and by extension people living at a greater distance across the harbour. Given its low profile and vegetative skyline backdrop, the proposal will not substantially impact the character or quality of views from across the harbour channel.

Any adverse effects in respect of water-based viewing audiences were assessed to be 'Low to very Low'.

Other viewers

For the other identified potentially affected viewing audiences included future residents of the consented apartment buildings, visitors to Catalina Bay, or users of the coastal walkway, the proposal will introduce a potential amenity with the jetty providing for recreational access to the water. The MRC building will appear as a public clubroom facility for the local community of users.

The building will interrupt some views to the water and users of the walkway will pass along the long side of the building, however this has been architecturally designed to avoid a blank façade.

10.2.4 EFFECTS ON COASTAL PROCESSES

Effects of the proposal on coastal processes are assessed in the Engineering Design Report. The report found that the proposal would have no measurable effect on the static water level in the channel and no increase in wave height from the piles.

The report found that there would be localised minor increases in current velocity around the piles, but that the piles would not affect the overall current system.

Localised scour of surface sediments around the piles may occur due to current action but would be confined to the area immediately around the piles.

In terms of sediment processes, the open piled building sub structure and jetty is expected to have very limited effect on existing sediment transport regime, as waves and currents will still be able to move freely under the structure with minimal interactions with the structure.

In summary, the effects of the proposal on coastal processes will be short-term and no more than minor.

10.2.5 ECOLOGICAL EFFECTS

The potential ecological effects associated with the proposal were comprehensively assessed in the Marine Ecological Effects Assessment prepared by Tonkin & Taylor and contained as **Appendix 15**.

The report found that construction and occupation of the proposal would have the potential to create effects described under the following headings:

Effects on coastal birds:

The report identified no high tide roosting sites and no evidence of nesting sites. As water reaches the base of the existing seawall at high tide, any roosting or nesting would occur above the seawall on the grass berm adjacent to Boundary Road. This habitat is not suitable for nesting for coastal birds due to human activity, noise and lack of cover.

The report found that the effects from the proposal would be negligible because:

- There is no suitable roosting habitat in the proposed project footprint;
- No suitable habitat was observed on site; and
- Coastal birds are likely to generally avoid the project footprint and immediate surrounds during the 2-month construction period.

In summary, the report considered the overall level of adverse effects of the proposal on coastal birds to be 'Low' and no specific effects management measures would be considered necessary.

Effects on benthic fauna

The Ecological Report found that the assemblage of benthic fauna in the area to be of 'Low' ecological value. It was considered that the 'magnitude of effect' on benthic fauna to be 'Moderate' in the short term, but given the already slightly modified environment, minimal extent of the piling footprints, and the context of the wider habitat available, there to be a 'Negligible' long term effect on benthic fauna.

The overall effect on benthic infauna and epifauna was considered to be 'Low' in the short-term (based on that no 'threatened' or 'at risk' species were identified and that benthic results indicated a slightly to moderately disturbed environment), and 'Very Low' in the long-term as re-colonisation of the proposed piles is expected by encrusting epifauna.

Effects on marine mammals

The Ecological Assessment noted that potential adverse effects on marine mammals to include:

- Local and temporary disturbance of marine mammals, causing behavioural response, in proximity to the project footprint during construction activities; and

- Noise generated from piling that may impact either temporarily or permanently the hearing sensitivity of marine mammals.

The report noted that the project footprint is considered to be of low value as habitat for marine mammals as it is located in the intertidal zone, and considered it unlikely that any nationally 'threatened' or 'at risk' marine mammals are likely to be within the project footprint or immediate surrounds.

The report considered there to be a 'negligible' magnitude of effect of the project on marine mammals based on the unsuitability of the habitat, the small size of the project footprint, proposed mitigation measures and the temporary duration of effects. It is also unlikely that common dolphins, bottlenose dolphins, orca, New Zealand fur seals and leopard seals would be adversely affected by intermittent sound of construction activities, given the short-term nature of the works and auditory management protocols that would be put in place.

The report considered the overall level of effect on marine mammals to be 'very low' and no additional mitigation should be warranted above and beyond the management measures that are outlined in Section 7.6.1 of this report.

Effects on fish

The Ecological Report considered the magnitude of effect on fish species to be 'negligible' because:

- The size of the project footprint is small compared to available habitat in the wider Waitemata Harbour;
- The duration of any effect will be short as construction activities are expected to last only approximately 2 months;
- Fish species are likely to avoid the area during piling and construction activities;
- 'Soft starts' for piling activities that will be implemented in the CMP will reduce auditory effects on fish; and
- The CMP will outline measures with appropriate controls on piling activities to control sediment discharges and spills into the marine environment.

Overall it was considered that the level of effect on fish species to be 'very low' with no additional mitigation warranted over and above the management measures which will be implemented in the CMP.

Effects on seafood resource species

The Ecological Report found that the location of all seafood resource species, which are in the inaccessible intertidal area, does not make them attractive for collection or human consumption. It was noted that a limited number of seafood resource species would not survive construction works such as piling, but that some species will recolonise the newly created habitat along the proposed piles and pontoons, meaning there is only a very slight change from the exiting baseline conditions.

Overall, the assessment considered there to be a 'very low' level of effect on seafood resource species and no specific effects management would be needed.

Effects on biosecurity

The Ecological Report noted that potential adverse effects associated with biosecurity includes the potential transferral of non-indigenous species from construction equipment being brought into the project area.

To mitigate this risk, the contractor engaged to undertake construction will implement appropriate biosecurity protocols that identify the risk of spreading unwanted/biosecurity risk species.

With appropriate biosecurity protocols in place, the overall ecological effect of the proposal on biosecurity is considered to be 'very low'.

10.2.6 CONSTRUCTION EFFECTS

CMA Effects

The effects arising from construction works are assessed in Section 5.3 of the Engineering Design Report contained as Appendix 9.

In summary, the main disturbance to the seabed will be from the pile installation of the concrete building sub structure piles, timber jetty piles and pontoon guide piles. Both land and marine boring/piling rigs are expected to be used.

In areas where soft surface sediments overlay ECBF (East Coast Bays formation) sandstone, the contractor will require a steel casing to prevent the soft sediments from entering the pile home. This steel casing will also prevent the suspension of sediments into the water column from the pile pre-drilling occupation. If drilling directly into sandstone, then the majority of the dredged spoil is expected to be able to be removed from the marine environment with no more than minor suspension of sediment into the water column.

During the piling process, it is possible that some material may be put into suspension, however any coarse material will settle close to the area of disturbance and result in only slightly higher levels of discolouration around the work area as sediment is brought into suspension. If increased sediment suspension does occur, then the use of a floating silt curtain can be utilised to contain suspended sediments to the work area during piling.

The probability of large silt plumes as a result of the piling operations during construction is considered low and the short-term effects to the coastal processes are considered to be minor.

Reinforced concrete piles required for the building sub structure piles will be constructed using methodology that will not wash out cement contents and therefore have no noticeable effect on the CMA.

A CMP will be lodged with Auckland Council prior to works.

Vehicle, machinery movements and access effects

A temporary access on land will be established and de-established during works to transport equipment on and off the foreshore while marine access will be via a barge accessing at high tide.

Any refuelling will be undertaken on land and outside of the CMA so will not discharge contaminants into the CMA.

Public access along Boundary Road will be restricted for the full duration of the construction activity. Pedestrian access through to the southern end of Boundary Road will still be achievable through Harrier Point Park during construction. Adverse effects of the loss of access will be temporary in nature and is anticipated during projects of this nature.

10.2.7 ACOUSTIC EFFECTS

The Assessment of Construction Noise and Vibration Effects (CNVA) contained as **Appendix 16** assessed the construction noise (including underwater noise effects) and found that the proposed construction works will meet the permitted construction noise limits without the requirements for acoustic screening. This is due to the large separation distance between the closest works and any occupied buildings (over 90m away).

The permitted construction vibration limits for human amenity and building damage will be complied with at all times due to the separation distances between the site and the nearest buildings.

The potential effects on marine mammals will be avoided by ensuring the CMP is implemented and that the piling works do not occur whilst any marine mammal is within the area.

In considering the assessment provided in the CNVA, the acoustic effects of construction are considered to be less than minor.

10.2.8 ARCHAEOLOGICAL EFFECTS

The Archaeological Survey and Assessment of Effects contained as **Appendix 17** found that there are no archaeological values that will be impacted on given the development is located on 20th Century cut and fill.

There are no heritage values identified within the area of development and the report recommended to continue with the development, taking note of accidental discovery protocol.

10.2.9 TRANSPORT

The Traffic Assessment contained as **Appendix 18** has assessed the transport matters and effects related to the proposal.

The main transport matters for the proposal relate to trip generation, car parking and disruption caused by loading of rowing skiffs onto a trailer for regattas.

Trip Generation

The estimated vehicle trip generation is outlined in Section 3 of the Traffic Assessment which breaks down expected arrival and departure time of all sailors and rowers. Given the timing of and nature of the activities, the traffic generated by the MRC is considered unlikely to create any noticeable effects in the weekday peak hours of the network.

The busiest times are likely to occur early in the morning (around 4:30am) when the rowing groups arrive.

No trip generation exceedances (100 vehicles per hour) are expected to occur during general weekly operation of the MRC.

In the case of a capacity event being held in the club rooms, this could potentially generate up to 265 vehicle trips, however this would likely occur after peak commuter hours, and it is unlikely that this would occur while other marine activities are happening. These events are likely to be infrequent and will not always reach capacity.

Car Parking

It is expected that most users of the MRC are likely to be dropped off at the loading zone at the end of Launch Road off and picked up by parents/caregivers who will not require a car park.

The proposal will not specifically provide any onsite car parks as required by the AUP:OP, however the Traffic Assessment has confirmed that there will be sufficient car parking provided on Launch Road to meet the requirements of the MRC.

Loading of Rowing Skiffs

Up to 22 times a year, the rowing club will need to be transported from the MRC for regattas. This will require a car with a trailer to reverse back down Boundary Road adjacent to the preparation deck, temporarily reducing the width of Boundary Road for public pedestrian access to 3m.

Loading before regattas is expected to typically occur on a Thursday afternoon, while unloading after a regatta will typically occur on a Monday or Tuesday Morning from 5am when low volumes of pedestrians and cyclists using Boundary Road would be expected. As such, the loading would not typically occur on weekends when Boundary Road would be at its busiest.

A management plan will be put in place by the MRC to help manage the effects on pedestrian access from loading this trailer. The management plan will ensure that the trailer allows at least 2m space for pedestrians and cyclists to pass with some form of delineation between the pedestrian access and the loading area (possibly cones with bars between them). Additionally, advance warning signage will alert pedestrians and particularly cyclists to the approaching activity, encouraging them to slow down.

With the management plan in place, the effects of the loading operation on Boundary Road will be no more than minor.

10.2.10 INFRASTRUCTURE AND SERVICING

The Civil Infrastructure Assessment (refer Appendix 19) has assessed the effects of the proposed servicing for the MRC.

In terms of stormwater runoff, the assessment found that given the MRC's coastal location, there will be no downstream network capacity or flooding issues created by the development. The proposed roofing materials are considered inert and as such will not produce significant contaminant loads. Similarly, the external areas will be a mix of timber decking and concrete surfaces which will not be subject to vehicular traffic and therefore not producing any significant contaminant loads.

In terms of wastewater, the assessment found that the worst-case scenario (peak wastewater flow) is anticipated to be less than 1.70 L/s which is considered to be 'very minor'. The public wastewater line being connected to will have ample capacity to cater for the proposed development.

In terms of water supply, the anticipated daily peak demand for potable water (0.11 L/s) is considered to be 'very minor'. Given the DN180 watermain on Launch Road, fire-fighting water demand is not envisaged to be a problem. However, if testing shows that fire water demand cannot be met, then a fire engineer can determine details of an onsite private fire water supply and firefighting management systems during the building consent phase.

10.3 SECTION 104 PROVISIONS: RELEVANT PLANNING PROVISIONS

The matters Council must have regard to when considering an application for resource consent are listed in section 104 of the Act.

This section provides an assessment of the matters that are required to be assessed within section 104 of the Act and, by doing so, also meets the requirements of clauses 2(1)(g) and 2(2) in Schedule 4.

10.3.1 NEW ZEALAND COASTAL POLICY STATEMENT

The New Zealand Coastal Policy Statement (NZCPS) is the national policy under the Act with the purpose of stating policies in order to achieve the purpose of the Act in relation to the coastal environment of New Zealand.

The NZCPS identifies the characteristics and qualities of the coastal environment and outlines the key issues the coastal environment is facing with the overall goal of promoting sustainable management.

The objectives relevant to this application are:

Objective 2 *- to preserve the natural character of the coastal environment and protecting natural features and landscape values through identifying areas where various forms of use and development would be inappropriate and protecting them from such activities.*

Objective 4 *- to maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy, while maintaining and enhancing public walking access to and along the coastal marine area.*

Objective 6 *– to enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through use and development, recognising that the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits. It is also recognised that functionally some uses and developments can only be located on the coast or in the coastal marine area.*

With regard to **Objective 2**, the natural character of the coastal environment at Catalina Bay is already heavily modified. The MRC building has been designed to be sympathetic to the natural features and landscape values by sloping the building back towards the land and using a colour palette that will allow the building to blend in with the environment.

The building provides for marine recreational activity which is envisaged within or near the coast and is not inappropriate in its location.

With regard to **Objective 4**, the proposal will restrict access to the area of the CMA taken up by the MRC building, however the proposal will enhance recreation opportunities by providing public with all tide water access.

The proposed deck area, jetty and pontoon will be a valuable public space for the public to use and enjoy and more than mitigates any loss of access to the part of the CMA where the MRC building will be located. Public walking access is provided to the southern end of Catalina Bay along Boundary Road.

With regard to **Objective 6**, the proposal will enable people and the Hobsonville Point community to provide for their social and cultural wellbeing by providing an important community facility. The proposal recognises the values of the coastal environment by being designed to have minimum impact on coastal processes, ecological values and natural landscapes.

The water access which will be used for launching yachts and skiffs as well as providing all tide access for public recreation does have a functional need to be located in the CMA.

The MRC building is not considered an inappropriate development to be located within the coastal environment given its direct correlation to marine activity in terms of transporting boats into the water and providing a start tower and viewing deck over for spectators to view yacht races.

The key policy in the NZCPS that is relevant to this application and which implement the above objectives is Policy 6:

Policy 6 – Activities in the coastal environment

Activities in the costal environment consider the rate at which built development and the associated public infrastructure should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the other values of the coastal environment.

Activities should consider where and how built development on land should be controlled so that it does not compromise activities of national or regional importance that have a functional need to operate in the coastal marine area.

The need to maintain and enhance public open space and recreation qualities and values of the coastal marine area is recognised.

It is also recognised that activities that do not have a functional need for location in the coastal marine area generally should not be located there.

With regard to **Policy 6**, the proposal to provide a public water access and locate part of the MRC in the CMA is a response to rapid population growth, with the jetty/pontoon being able to provide the growing community with access to the water, and fully land-based options for the MRC being taken up by residential housing. The proposal will therefore provide for the reasonably foreseeable needs of population growth while any effects on the coastal environment will be no more than minor.

The effects of the loss of a portion of the CMA to the MRC building footprint will be mitigated by the enhancement of public open space (the preparation deck and water access).

In terms of recognising that activities without a functional need for location in the CMA should generally not be located there, the use of the word "generally" acknowledges that there are some instances when activities without a functional need to be in the CMA could be located there. The wording of the policy denotes that in appropriate circumstances, activities without a functional need to locate in the CMA could be undertaken within the CMA.

Noting this, the MRC building does not specifically have a 'functional' requirement to be located in the CMA but in this case, it could be considered that the MRC building's proposed location is appropriate because:

- The MRC has a 'functional' need to be located in close proximity to the channel to enable boats to be launched from the facility and allow people on the viewing deck/start tower to observe yacht racing activity;
- There are no alternative land-based options available in Catalina Bay. Fully land-based options were initially explored, but discounted for various reasons as explained in Section 6 of this report;
- The proposal has been located as close as practical to Boundary Road, being anchored on the land but extending out into the CMA. Locating it further landward would have prevented or hindered public access along the coastal esplanade reserve and coastal walkway along Boundary Road;
- The adverse effects from exclusive occupation are mitigated through enhancing public a new public space and providing the public with all-tide water access;
- The proposal has been architecturally designed to be sympathetic to the natural coastal character; and

- The proposal has been designed and engineered to have minimal impacts on coastal processes and ecological values.

10.3.2 AUP:OP OBJECTIVES AND POLICIES

COASTAL MARINE AREA ZONE

Chapter F2.5 Disturbance of the foreshore and seabed

The background for this section of the chapter highlights that activities and works can have adverse effects on the foreshore and seabed, as well as affecting visual, natural and amenity values.

The chapter acknowledges that the extent of effects vary depending on the nature and the foreshore and seabed.

The relevant objectives of this section of the chapter are set out and assessed below.

Objective F2.5.2(1) *Use and development in the coastal marine area that has only short-term and minor impacts on the foreshore and seabed is enabled.*

The CMP which will be in place will ensure construction effects as a result of pre-drilling and piling will have a minor short-term impact on coastal processes. As explained in Section 10.2.4 it is not anticipated that any impacts on the coastal processes will be long-term or more than minor.

Policy F2.5.2(1) *Enable use and development in the coastal marine area that results in a minor level of disturbance to the foreshore and seabed, or that can be remedied by wave and tidal processes.*

The development (pre-drilling and piling) in the CMA will result in a minor level of disturbance to the foreshore and seabed. The open nature of the building sub-structure and jetty will allow waves and currents to move freely under the structure with minimal interactions with the structure.

Policy F2.5.2(4) *Limit the area of foreshore and seabed disturbance to the extent practicable and for the works to be done at a time of day or year, that will avoid, remedy or mitigate adverse effects on all of the following:*

(a) the feeding, spawning and migratory patterns of marine and coastal fauna, including bird roosting, nesting and feeding;

(b) stability of coastal features such as dunes and coastal vegetation;

(c) public access, recreational and commercial use of the coastal marine area;

(d) other established activities;

(e) traditional gathering, collection or harvest of kaimoana by Mana Whenua; and

(f) historic heritage and Mana Whenua values.

The Ecological Report found during the site assessment that there is no suitable roosting or nesting habitats for birds observed at the site and so related effects will be avoided.

The extent of coastal vegetation will be limited to only the extent that is required to make way for the building and will not affect the stability of the bank.

Public access to the CMA will be temporarily restricted during construction of the water access and permanently restricted at the MRC building location. The effects of the public access restriction will be remedied by the overall long-term benefits of a

new all tide water access and there are no other established activities known to use the CMA within the site.

The Ecological Report found there were a very low number of Pacific oysters and gastropods in the area as well as cockles (which were more abundant), however the majority of cockles were under the edible size limit and that there is no safe access down to the intertidal area.

Policy F2.5.2(5) *Require activities or works to be done by methods, at times and in conditions that will avoid, remedy or mitigate adverse effects arising from the release of sediment and contaminants into coastal water.*

The CMP will have measures in place such as controls on piling and requiring silt curtains to be utilised if elevated levels of suspended sediment is observed.

Chapter F2.14 Use, development and occupation within the coastal marine area

The background for this section of the chapter sets an expectation for the general public to be able to freely access and use the CMA, only contemplating exclusion if it is required for operational or health and safety reasons. It acknowledges that use and development within the CMA can enhance social, cultural and economic well-being.

It also implements the policy direction of the NZCPS by setting an expectation that the use and occupation of the CMA should generally be for activities that have a functional or operational need to locate there. Noting this is not an absolute position it then sets out some instances where it may be appropriate for activities that do not have a functional or operational need to locate within the CMA to do so.

The first instance is in areas such as the waterfront and around ferry terminals, where they can add to the atmosphere and amenity values of the area because they contemplate the intended use and function of the area.

The second instance is outside of these areas, where the chapter sets an expectation that such developments should be assessed through a process that enables public input (i.e. public notification and/or consultation and engagement) and takes into account the impacts on the use and values of both the land and sea.

The relevant objectives of this section of the chapter are set out and assessed below.

Objective F2.14.2(1) *- The high public value of the coast and coastal marine area as open space area with free public access is maintained.*

The proposal will enhance public access to the CMA and maintain access along the coast by:

- Providing improved water access achieved through specifically designed and fit for purpose proposed jetty, gangway and pontoon.
- Providing long term access to the CMA in an area which has limited water access options, and which is reliant on an historic and deteriorating seaplane ramp to provide water access.
- Locating the MRC building and preparation deck in an area of the CMA that is not easily accessible or often used by the general public.
- Positioning the MRC building and preparation deck to ensure that public access along the esplanade reserve and Bomb Point Drive is not impeded.
- Adopting management plans to ensure that the use of the MRC building and preparation deck can occur without causing disruption to pedestrians and cyclists within the esplanade reserve and Bomb Point Drive.

Objective F2.14.2(3) *- Limit exclusive occupation to where it can be demonstrated it is necessary for the efficient functioning of the use and development or is needed for public safety, and any loss of public access and use as a result is minimised and mitigation is provided where practicable*

The preparation deck, jetty, gangway and pontoons will all be accessible to the general public. Only the MRC will require exclusive occupation, which is required to enable the safe storage of equipment in the ground level of the building and to secure the upper level for the times when the MRC building is not open to the public.

The exclusive occupation of the CMA by the MRC building can therefore be considered necessary for the efficient functioning of the MRC. Any loss of access to this area of the CMA (noting it is not currently easy to access or often used) will be more than offset by the improved water access provided by the preparation deck, jetty, gangway and pontoons.

Objective F2.14.2(4) *- Efficient use is made of coastal marine area by consolidating use and development within appropriate areas, where practicable.*

The proposed MRC has gone through a thorough design process over the past 18 months to ensure that it adopts an efficient design that occupies the smallest area of the CMA possible. The location of the MRC is also within an area that has been heavily modified and is presently used for the launching of super yachts – thereby consolidating the development and use into an already modified area of the CMA.

Objective F2.14.2(5) *- Activities that do not have a functional or operational need to be undertaken in the common marine and coastal area are provided for within zones or precincts only where they can demonstrate:*

(a) the need for a common marine and coastal area location;

(b) they cannot practicably be located on land outside of the coastal marine area; and

(c) they are consistent with the use and value of the area, including the adjacent land area, and do not compromise natural character, ecological, public access, Mana Whenua, historic heritage, or amenity values.

The proposed MRC needs to be within a coastal location in order to operate efficiently and effectively. It does not have a functional or operational need to locate within the CMA, but as set out within section 6.1 above, it cannot be practicably located on land outside of the CMA that is still in close proximity to the CMA (i.e. within Catalina Bay).

The sailing club has long been established within Catalina Bay and the rowing club is a current occupant within the bay. The proposed MRC involves relocating both clubs from one part of Catalina Bay to another, which ensures it will be consistent with the current use of the surrounding land and CMA area. The proposal has been found to not compromise the natural character (section 10.2.3), ecological (section 10.2.5), public access (section 10.2.5), mana whenua (section 8.1), historic heritage (section refer Archaeological report) or amenity (section 10.2.3) values of the area.

Objective F2.14.2(6) *- Activities that do not have a functional or operational need to be undertaken in the coastal marine area do not unduly limit the use of areas for marine and port activities or result in adverse cumulative effects.*

The proposal has been designed to integrate with the existing marine uses within Catalina Bay as well as the consented (but not yet implemented) marine uses that may establish within the bay in the future (discounting the coastal permits that will be surrendered to enable the MRC). No cumulative effects are anticipated to occur as a result of the proposal.

Objective F2.14.2(7) *- Use and development in the coastal marine area is supported by all necessary land-based access and infrastructure.*

The proposal has been designed to integrate with, and be supported by, land-based infrastructure including road access, parking and servicing (as set out within section X of this application).

The policies that implement these objectives are set out and assessed below.

Policy F2.14.3(2) - *Provide for exclusive occupation rights in the common marine and coastal area only where it can be demonstrated this is necessary for the efficient functioning of the use and development or is needed for public safety, and will enable the most efficient use of space by activities in the common marine and coastal area and require that the loss of public access and recreational use is mitigated.*

As set out in the previous assessment, the only the MRC building is proposed for exclusive occupation of the CMA and this is required for operational reasons. This part of the CMA is not easily accessible nor is it well used by the general public. The loss of public access to this part of the CMA will be more than mitigated by the improved access to the CMA that will be provided by the proposed preparation deck, jetty, gangway and pontoons.

Policy F2.14.3(3) - *Avoid use and occupation of the common marine and coastal area by activities that do not have a functional need to be undertaken below mean high water springs, unless the proposed use:*

(a) can demonstrated it needs to be located in the common marine and coastal area and cannot practicably be located on land outside of the common marine and coastal area;

(b) is consistent with the objectives and policies for the relevant zone or precinct;

(c) will enhance amenity values and not conflict with marine activities; or

(d) any necessary land-based infrastructure can be provided.

The proposed MRC does not have a functional need to locate within the CMA, but it has been demonstrated that:

- It cannot be practicably located on land (outside the CMA) that is within the necessary proximity to the coast (refer section 6.1);
- It is consistent with the objectives and policies of the Coastal Marine Area, Marina and Informal Recreation zone (which underly the MRC location);
- It will enhance the amenity values of Catalina Bay (refer section 10.2.1);
- It will not conflict with marine activities within Catalina Bay (refer section 5.3); and
- The necessary land-based infrastructure can be provided (refer section X).

Policy F2.14.3(4) - *Avoid granting rights of exclusive occupation in areas with high public use and where it will have a significant adverse effect on public access and recreational use of the common marine and coastal area.*

The proposed MRC will be in an area that is not easily accessible to the general public or highly used. It will provide improved and long-term public access and recreational use of the CMA.

Policy F2.14.3(10) - *Require any proposed use and development for activities in the common marine and coastal area to demonstrate that any necessary land-based access and infrastructure can be appropriately provided for.*

Section 7.4 of this report demonstrates that the necessary land-based infrastructure and access can be appropriately provided for.

Chapter F2.16 Structures

The background to this section of the chapter acknowledges that structures and buildings within the CMA are necessary to provide for peoples social, economic and cultural wellbeing. It recognises that the coast is a finite resource that needs to be used efficiently – and that there is the potential for new structures to result in adverse effects on natural character, coastal process, landscape and public access.

The relevant objectives of this section of the chapter are set out and assessed below.

Objective F2.16.2(1) *- Structures are generally limited to those that have a functional need to be located in the coastal marine area, or those that have an operational need and that cannot be practicably located outside of the coastal marine area.*

This objective is consistent with the policy direction of the NZCPS by acknowledging that, generally, structures in the CMA should be limited to those that have a functional or operational need to be there – but that there are instances where it may be appropriate for structures without this need to do so.

Objective F2.16.2(2) *- Structures provide for public access and multiple uses where practicable, other than those restricted by location or functional requirements.*

The proposed structures will provide both public access to the CMA as well as having multiple uses. It will provide for the general public, the yacht club and the rowing club to access and use the CMA.

Objective F2.16.2(3) *- Structures are appropriately located and designed to minimise adverse effects on the ecological, natural character, landscape, natural features, historic heritage and Mana Whenua values of the coastal marine area, and avoid to the extent practicable the risk of being adversely affected by coastal hazards.*

The location of the proposed structures has been reached following a comprehensive design process over the past 18 months. Its location and use of existing dredging permits have enabled the length and extent of structure to be minimised whilst still providing deep water access. The potential adverse effects in relation to these matters have been assessed within section 10.2, which has found them to be minor.

The relevant policies of this section of the chapter are set out and assessed below.

Policy F2.16.3(1) *- Limit structures to the following:*

(a) those that generally have a functional need to be located in the coastal marine area, or that have an operational need and cannot be practicably be located outside of the coastal marine area;

(b) where the proposed purpose or use cannot practicably be accommodated on existing structures or facilities;

(c) those that are necessary to provide access to land where there are no practicable land-based access options, and there is no existing structure in close proximity that could provide reasonable access; and

(d) locations where the purpose and frequency of use warrants the proposed structure, and an alternative that would have lesser effects is not a practicable option.

The proposed jetty, gangway and pontoons have a functional need to located within the CMA. The proposed MRC building and preparation deck do not have a functional need or an operational need to locate within the CMA but they cannot be practicably located within the land in Catalina Bay and any land based options further away would not be practicable. Nor can the proposed structures be accommodated on the existing structures within the CMA.

Policy F2.16.3(2) - *Avoid adverse cumulative impacts from structures in the Coastal –General Coastal Marine Zone taking into account the number of structures in the immediate and surrounding area.*

The proposed structures will avoid adverse cumulative impacts because there are relatively few structures within Catalina Bay.

Policy F2.16.3(3) *Limit the impacts from structures associated with infrastructure by:*

(a) requiring an assessment of any practicable alternative sites, routes or designs where it is likely that the proposed structure will result in any significant adverse effect on the environment, including land-based alternatives, to demonstrate that the chosen option is appropriate taking into account the purpose and use of the structure and that the adverse effects will be avoided to the extent practicable, and will otherwise be remedied or mitigated..

The proposed structures will avoid significant adverse effects. Nonetheless, the location and design of the structures was derived from a comprehensive design process undertaken over an 18-month process where multiple options were considered before the proposed design was chosen as the most preferred and best practicable option.

Policy F2.16(6) *Require structures to be located to avoid significant adverse effects and avoid, remedy or mitigate other adverse effects on the values of areas identified as:*

(a) D17 Historic Heritage Overlay;

(b) D21 Sites and Places of Significance to Mana Whenua Overlay;

(c) D11 Outstanding Natural Character and High Natural Character overlays;

(d) D10 Outstanding Natural Features Overlay; and Outstanding Natural Landscapes Overlay; and

(e) significant surf breaks identified in Appendix 4 Surf breaks, including the recreation, amenity and economic values, and taking into account any effects on coastal processes, currents, water levels, seabed morphology and swell corridors that contribute to significant surf breaks.

The proposed structures have been located outside from all of the above listed features.

Policy F2.16(7) *Require structures in the Coastal – General Coastal Marine Zone to be located to minimise:*

(a) impacts on other coastal activities, including activities provided for in zones or resource consents;

(b) adverse effects on recreational use, including popular anchorage areas;

(c) adverse effects on public access to and along the coastal marine area;

(d) visual impacts, particularly in areas sensitive to effects such as headlands or the outer edges of enclosed bays, as seen from both land and water;

(e) the size of the structure, including its size in relation to wharves and jetties and consider providing for partial rather than all-tide access, unless this is not a practicable option given the function and frequency of use;

(f) the risk of being affected by coastal hazards including sea level rise;

(g) the need for dredging, including ongoing dredging to maintain water access; and

The proposed structures are located within the mudflats of Catalina Bay where there are no other coastal activities operating out of the area. The existing permits to enable

the superyacht launching facility will be surrendered if consent for the MRC is granted.

The site is intertidal and therefore not a popular anchorage area and the structures have been designed to integrate with the existing coastline.

The proposed structures have been designed to enable all tide access which is an operational requirement for the users of the MRC, given their frequent use of the facility.

The MRC, deck and jetty are being constructed on piles so as to not risk being affected by coastal hazards including sea level rise.

The proposed structures will extend out to the location of the existing dredging permit, so no additional dredging is required to maintain water access.

Policy F2.16(8) *Require structures to be designed to:*

(a) be the minimum size reasonably necessary to provide for the proposed use;

(b) be multi-purpose where practicable and where it will not conflict with operational or safety requirements;

(c) minimise impacts on natural character and amenity values and generally fit with the character of any existing built elements, including in the use of materials and colours having regard to safety requirements;

(d) not increase rates of coastal erosion; and

(e) take into account dynamic coastal processes, including the expected effects of climate change and sea level rise.

The proposed structures have been designed to be of sufficient size to accommodate the proposed use, but also designed efficiently to minimise impacts on natural character and amenity values. The MRC building will utilise a recessive and natural colour palette. The seaward edge of the building will include a lighter façade which reflects the water, while green and yellow accents around the lower storey of the building reflect the mangroves and the nearby foreshore.

The proposal has been designed to be located on piles to minimise impacts on coastal erosion and dynamic processes.

Policy F2.16(10) *Require the building material used for structures to be appropriately marine treated, or if relocated or recycled building material or structures are used, that it is treated or cleaned to prevent the transference or introduction of harmful aquatic organisms.*

The proposed water access structures will be constructed out of suitable materials to ensure they have an appropriate lifespan without causing harmful leaching into the marine environment.

Policy F2.16(11) *Require buildings in the coastal marine area to be of a scale, location and design that is appropriate to its context.*

The proposed building will utilise an efficient layout so that it is of a scale appropriate to its context. Given its low profile and vegetative skyline backdrop, the proposal will not substantially impact the character or quality of views from across the harbour channel.

Policy F2.16(13) *Require structures to provide for public access and reasonable use, except in exceptional circumstances, or where public use needs to be restricted or excluded for operational, or health and safety reasons.*

The deck, jetty, gangway and pontoon will provide public all-tide water access and 'reasonable use'. The MRC requires exclusive use for operational purposes, as the yachts and skiffs need to be locked away for security and health and safety reasons.

Policy F2.16(15) *Avoid hard protection structures that are likely to result in:*

(a) undermining of the foundations at the base of the structure;

(b) erosion behind or around the ends of the structure;

(c) settlement or loss of foundation material;

(d) movement or dislodgement of individual structural components;

(e) the failure of the coastal protection structure should overtopping by seawater occur;

(f) piping or hydraulic pumping of fine material or backfill;

(g) offshore or long-shore loss of sediment from the immediate vicinity; and

(h) any increase in the coastal hazard posed to the coastline elsewhere.

No hard protection structures are proposed, with the proposal being accommodated on piles to minimising effects on all coastal processes.

Policy F2.16(19) *Require applications for structures in the coastal marine area to demonstrate that any landward component, development, or use of land-based infrastructure or facilities can be appropriately provided for.*

The land-based infrastructure and servicing for the centre can be appropriately provided for, with sufficient parking being accommodated on Launch Road and the surrounding parking network. Loading and drop-offs can be accommodated at the loading zone at the Launch Road roundabout.

Policy F2.16(20) *Require applications for structures in the coastal marine area to demonstrate how any significant adverse effects on the use of adjoining land, including reverse sensitivity effects on existing use or development of that land, can be avoided, remedied or mitigated.*

The proposal has considered noise and visual effects on the nearby consented residential apartment buildings by locating the preparation deck and water access further south than the initial investigated options.

Policy F2.16(22) *Ensure that structures in the coastal marine area do not pose a risk to navigation or to public health and safety by:*

(a) requiring structures to be maintained to an appropriate standard;

(b) requiring structures to be appropriately located and lit; and

(c) enabling the removal of structures, where they are no longer functional or required, or have been abandoned.

The proposal information has been sent to the Harbourmaster for feedback although no formal feedback has been received. It is anticipated that the Harbourmaster will be able to have input into the application through the notification process.

Summary

Having assessed the relevant objectives and policies, we are of the view that the proposed MRC will be consistent with the objectives and policies of the Coastal Marine Area zone.

COASTAL – MARINA ZONE

The background section to this zone describes the zone as providing for the development and operation of various established marinas, including both land and water components.

The objectives and policies of the zone seek to enable development of marinas and marine-related activities while ensuring that adverse effects on the coastal environment are avoided, remedied or mitigated.

The zone ensures activities that have a functional need for a coastal location have priority over those that do not, while ensuring that development should be of a scale, design and location that remedies or mitigates adverse effects on the coastal environment.

With regard to the objectives and policies, the proposal involves development of marine-related activities, being providing deep water access to launch yachts and skiffs, as well as providing public access to deep water at all tides.

The proposed water access has a functional need for a coastal location, as it is required to provide all-tide access to deep water for the launching of yachts and skiffs.

The water access is of a suitable scale to achieve deep-water access at all tides and being located on piles, the water access will not affect coastal processes like other breakwater type marinas would (which are anticipated in the Coastal Marina Zone). The effects of the proposal on ecological values, amenity values, natural character values and coastal processes have been assessed to be appropriately mitigated and no more than minor (refer section 10.2).

In summary, the proposal is consistent with the objectives and policies of the Coastal Marina Zone.

OPEN SPACE – INFORMAL RECREATION ZONE

The background section of this chapter explains that the zone applies to open spaces that range in size from small local parks to large regional parks, which are used for a variety of outdoor informal recreation activities and community uses, such as walking, running, relaxing and other activities.

The objectives and policies of the zone seek to maintain the open spacious character of the zone, predominantly provide for informal recreation activities and toe limit buildings and exclusive-use activities to maintain public use and open space for informal recreation.

The zone provides for small-scale, informal land-based water-related recreational facilities, while maintaining and enhancing public access to and along the coast.

The zone also seeks to use the street network for parking in preference to on-site parking to ensure the character of the zone is maintained.

With regard to the objectives and policies, and while noting that the proposed MRC building is for regular organised sport and recreation (therefore excluded from the AUP:OP definition of Informal Recreation), the portion of land taken up by the MRC building is insignificant in the context of the expansive surrounding Informal Recreation Zone (which includes Harrier Point Park and stretches down the coastline to Bomb Point). The land occupied by the proposed building is not generally suited for informal recreation as it is overgrown with vegetation, and sufficient access is provided along Boundary Road around the building.

The MRC building is a water-related recreational facility, and it is noted that public access along the coast via Boundary Road will be maintained around the building.

The proposed preparation deck provides mitigation of the exclusive use of the building in the form of a quality open space for public to enjoy, while being integrated with the all-tide water access.

It is also noted that the proposal avoids providing on-site parking within the Informal Recreation Zone as it is considered that the street network can accommodate the parking demand for the facility.

E27 TRANSPORT

The relevant objectives and policies of the Transport Chapter seek to prioritise pedestrian safety and amenity along public footpaths while providing efficient parking, loading and access to support urban growth.

The chapter also seeks to enable land use and all modes of transport to be integrated in a manner that enables the adverse effects of traffic generation on the transport network to be managed.

With regard to the above, the proposal will maintain safe public access for pedestrians and cyclists down Boundary Road around the MRC building. This stretch of Boundary Road will also be used to shift boats from the south-western end of the building to the preparation deck, and mitigation measures outlined in section 2.2 of the Transport Assessment are in place to ensure it is safe and that there are no conflicts between the users of the MRC and the public.

For the occasions that rowing boats need to be transported to regattas, the MRC management plan will ensure that safe pedestrian and cyclist access around the trailer will be provided at all times.

While the proposal does not propose any additional parking, sufficient parking is located along Launch Road to accommodate the parking demand for the facility, while more than the required number of bicycle parks are being provided.

With regard to adverse effects of traffic generation on the transport network, the busiest times for the facility will not be during peak commuter times, and as such will not affect the safe or efficient operation of the surrounding road network.

In summary, the proposal is consistent with the objectives and policies of the Transport Chapter.

10.3.3 OTHER MATTERS

Section 104(1)(c) allows Council to consider any other matters that are relevant and reasonably necessary to determine the application.

There are no other matters that are relevant or necessary to assist Council in determining this application.

10.3.4 SECTION 104 ASSESSMENT CONCLUSION

The potential adverse effects of this proposal have been assessed and can be concluded to be minor and acceptable in the context of the receiving environment.

This assessment has also demonstrated that this proposal is consistent with the relevant objectives and policies of both the NZCPS and the AUP.

Overall, the relevant matters of section 104 of the Act have been comprehensively covered within this section and provides Council with sufficient information to make a determination under section 104B of the Act.

11.0
NOTIFICATION ASSESSMENT

11.1 PUBLIC NOTIFICATION UNDER SECTION 95A OF THE ACT

Section 95A(1) of the Act outlines the steps that Council must follow to determine whether to publicly notify an application for resource consent.

11.1.1 STEP ONE: MANDATORY PUBLIC NOTIFICATION IN CERTAIN CIRCUMSTANCES

The three criteria when an application must be publicly notified by Council are contained in section 95A(3) of the Act. These are:

a) The applicant requests public notification;

b) Public notification is required under section 95C;

c) The application is made jointly with an application to exchange recreation reserve land under section 15AA of the Reserves Act 1977.

In this case the applicant is requesting public notification.

11.2 NOTIFICATION SUMMARY

The application should be publicly notified under section 95A(3) of the Act.

12.0 CONCLUSION

The applicant seeks resource consent to construct an MRC and water access on the southern corner of Boundary Road and Launch Road in Hobsonville Point. The MRC building will be anchored into the land along the eastern side of Boundary Road but will extend out over the CMA on top of piles. The water access will consist of a timber jetty on piles with an aluminium gangway that extends down to a floating concrete pontoon held in place by guide piles.

An assessment of this proposal has been prepared using Schedule 4 of the Act, and covers the matters that Council must consider when making a decision on an application under section 104 of the Act. The assessment has:

- Demonstrated that the proposal is consistent with the purpose and principles of the Act;
- Found that the potential adverse effects on the environment of the proposal will be minor and therefore acceptable;
- Identified the positive effects that approval of this application will generate; and
- Concluded that the proposal is consistent with the relevant objectives and policies of the NZCPS and the AUP.

Taking all of the above into account, the Council has sufficient information to make a decision on this application and it is appropriate for consent to be granted in accordance with section 104B of the Act.

13.0 LIMITATIONS

13.1 GENERAL

This report has been prepared for the particular project described and for the purpose of satisfying the statutory information requirements for an application being made under the Resource Management Act 1991. No responsibility is accepted by Harrison Grierson Consultants Limited (or its directors, agents or employees) for the use of the report or any part of it in any other context or for any other purpose.

APPENDICES

APPENDIX 1
RECORD OF TITLE

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier **786143**
Land Registration District **North Auckland**
Date Issued 22 December 2017

Prior References
697760

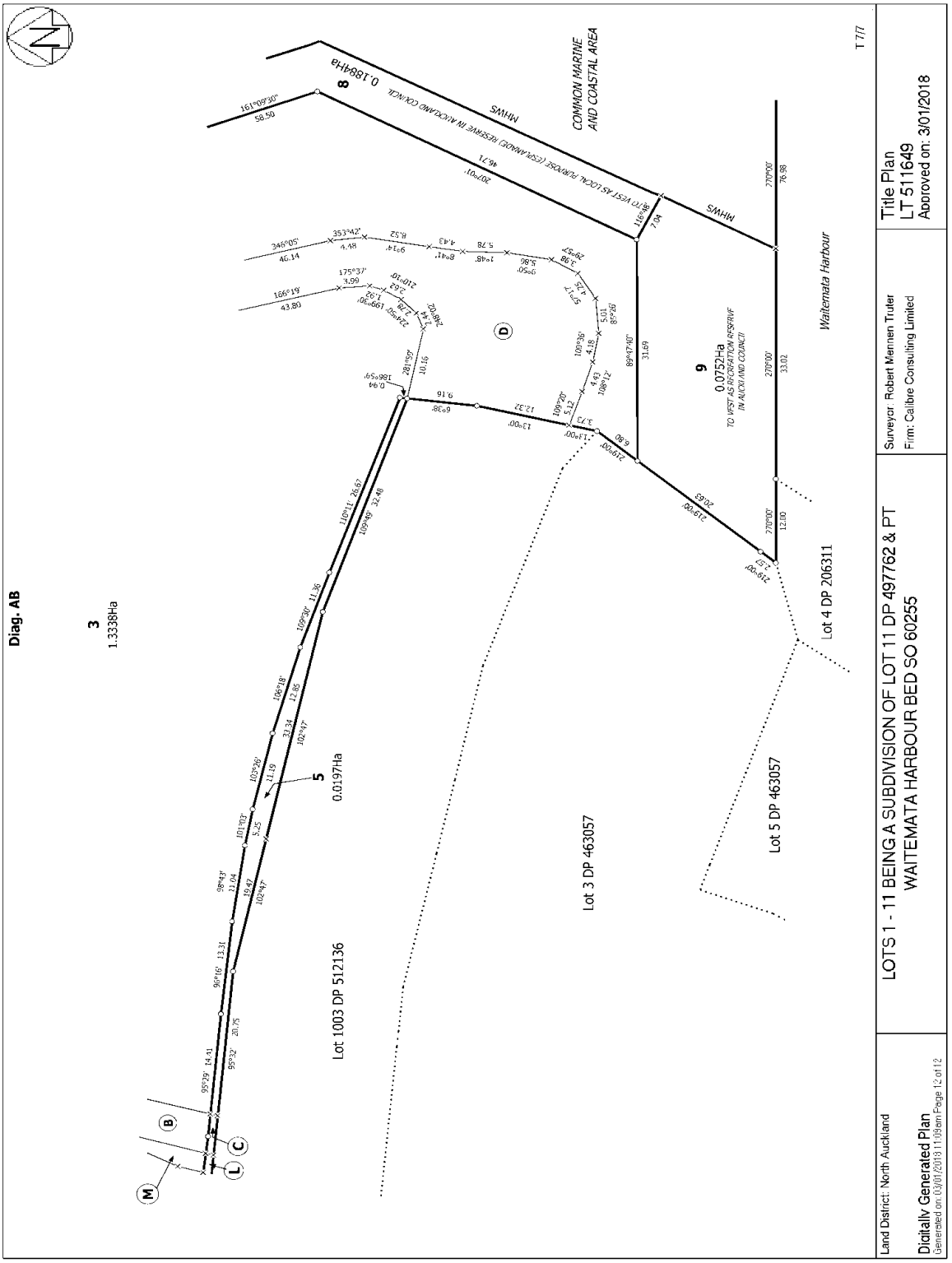
Estate	Fee Simple
Area	752 square metres more or less
Legal Description	Lot 9 Deposited Plan 511649
Purpose	Recreation Reserve

Registered Owners
Auckland Council

Interests

Subject to Part IVA Conservation Act 1987
Subject to Section 11 Crown Minerals Act 1991
Subject to the Reserves Act 1977

Identifier **786143**



APPENDIX 2
OPERATIONAL REQUIREMENTS MEMO

Technical Memo

HOBSONVILLE POINT - MARINE RECREATION CENTRE

Operational Requirements

HLC

TO:	Russell Brandon	**HG PROJECT NO:**	1020-143449-01
FROM:	Sam Benson	**DATE:**	19 August 2019

1.0 INTRODUCTION

The purpose of this memo is to provide Flow (Traffic Engineers for the project) with a summary of the operational requirements of the users of the Hobsonville Point Marine Recreation Centre (the 'MRC'). The MRC will be used by Hobsonville Yacht Club (the 'Yacht Club'), Westlake Boys high School Rowing Club ('Westlake') and the Regional Performance Centre (the 'RPC'), who are a high-performance rowing team.

All three sports groups have used The Landing in Hobsonville Point for some time, with both the Yacht Club and Westlake operating in the area at a similar scale for more than 30 years.

2.0 YACHT CLUB OPERATION

This section outlines how the Yacht Club expect to use the MRC and the water access. This is based off the current Yacht Club operations which are anticipated to continue (relatively unchanged) into the future.

JUNIOR SAILORS

The junior sailors at the sailing club are aged from 7 to 14 and will use the MRC and water access as follows:

Wednesday and Friday Nights:

Approximately 15 – 20 juniors (aged 7 to 14) are brought to the club by their parents between 4:00pm and 4:30pm. Approximately 10 – 20 yachts as well as up to 3 support tenders will then be brought out of the club and launched shortly after arrival.

These yachts and tenders are on hand-held trailers and will be rigged on the deck area to the north of the Marine Recreation Centre before being launched from the pontoons at the end of the water access. The yachts being used are primarily Optimists but there are also several Sunbursts as well.

Parents typically either drop the junior sailors off and go home, or park in the area so that they can watch from the sailing club.

The juniors will sail out on the water for up to 2.5 hours (at a maximum) depending on the time of year (sunset times) and the weather. The yachts and tenders will be brought back up the water access and de-rigged/washed down on the deck area to the north of the Marine Recreation Centre.

The Juniors will usually be taken home from the club at 7pm.

Sundays:

Juniors will also use the facility on Sundays. This will occur in the same manner as Wednesday's and Friday nights in terms of how they get to and from the club as well as rigging up and launching. The timing of sailing on Sundays will depend on the tide and will start any time between 10am and 2pm. Sailing will typically occur for up to 3 hours at a maximum.

SENIOR SAILORS

The senior sailors will participate in races on Sundays and use larger yachts that are already moored off Kauri Point or berthed at Hobsonville Marina.

These races usually start from Kauri Point or Hobsonville Marina, so the sailors do not typically park in the Hobsonville Landing area for the duration of the races.

The races typically finish between 4:00pm and 5:00pm and the yachts will return to where they are moored/berthed.

Following the races, the seniors will usually drive to Launch Road (from either Kauri Point or Hobsonville Marina) where prizegiving will often be held at the MRC from 6:00pm. Most people will leave the club before 7:00pm.

These races usually involve 4 – 8 yachts with up to 5 people on each yacht, meaning a maximum of 40 people might be expected to attend the prizegiving. The Yacht Club expect that over time, this number might increase to up to 15 yachts, meaning up to 75 sailors may attend prizegivings/post regatta functions in the future.

3.0 ROWING OPERATION

This section outlines how Westlake and the RPC expect to use the MRC and the water access. This is based off their current operations which are expected to continue into the future.

WESTLAKE BOYS HIGH ROWING CLUB

Summer Training (October to March)

Westlake will train out of the MRC throughout summer with up to 60 athletes and several coaches.

Monday – Friday

Most of the athletes will be dropped off at 4:45am on weekdays by parents who (due to the early nature of the training sessions) will usually carpool with full cars. The coaches and several senior students will drive separately and park on Launch Road.

The rowing skiffs and up to 6 support boats (generally small aluminium boats with outboards) will be carried from the Marine Recreation Centre and launched from the pontoon at the end of the water access at approximately 5:00am.

The rowers will usually return to the wharf at 7:00am to hose down the skiffs and tenders on the deck area to the north of the Marine Recreation Centre.

A bus comes to pick the rowers up at 8:00am to take them to school and the remaining driving senior students and coaches will leave at this time too.

Weekends

Westlake typically participate in rowing regattas approximately every two weekends throughout Summer.

There may be several weekends throughout summer where there are no competitions on, where Westlake will train out of the facility throughout the morning, launching and returning in the same manner.

Winter Training (April to September)

The School may occasionally use the facility for training during the winter over similar hours, although this would be significantly reduced in frequency and number of athletes and coaches.

Loading and Unloading of Skiffs

The School rowers will compete in several regattas throughout the year (approximately 12 throughout the summer months) which will require all skiffs to be transported to and from the MRC.

This will require a Ute and trailer approximately 9.7 metres long by 2.5 metres wide to be reversed down the boundary road alongside the deck to the north of the MRC.

This will require a portion of Boundary Road to be closed for approximately 3 – 4 hours to allow boat-loading and unloading to occur.

Before a regatta, this will typically occur after school on a Thursday afternoon from 3:30pm for transporting the skiffs away from the MRC and unloading (returning to the MRC) will typically occur on a Monday or Tuesday Morning from 4:45am.

REGIONAL PERFORMANCE CENTRE

The facility will also be used by the RPC which consists of approximately 20 rowers and several coaches. These rowers are high performance athletes who will typically drive themselves to the area and park on Launch Road.

Monday – Friday

Weekly training sessions for the RPC will be from 4:45am – 10:30am and 4:00pm – 7:00pm.

Weekends

Weekend training sessions for the RPC will be from 4:45am – 11am.

Loading and Unloading of Skiffs

The RPC will also compete in several regattas throughout the year (approximately 10) which will require their skiffs to also be transported to and from the MRC.

As there are less people and skiffs involved, this will take much less time than the School to unload and load the skiffs.

N:\1020\143449_01\500 Del\510 Reports\M004v3-Operational Requirements-sjb.docx

APPENDIX 3
EXISTING COASTAL PERMIT LOCATIONS

TIDE LEVELS (m) (HSD)	
HAT	3.82
MHWS	3.42
MHWN	2.85
MSL	1.90
L & S DATUM	1.83
MLWN	0.98
MLWS	0.38
HSD	0.00

NOTE:

1. ALL LEVELS SHOWN ARE IN TERMS OF HOBSONVILLE SOUNDING DATUM.

N

0.0

TOP OF BANK

BOTTOM OF BANK

TIMBER BOARDWALK
REFER DWG C-117

DECK

VEGETATION

NEW FERRY WHARF
REFER DWG C-112,
REFER DWG S-100 FOR STRUCTURAL

(38179 - Ferry Wharf)

VISITOR BERTHS

(37449 - Visitor berths & public dock

NEW TIDAL STAIRS

(37452 - Tidal Stairs)

EXISTING SEABED CONTOUR

(37453 - Seaplane restoration)

37455 (44 berth marina)

BOARDWALK
REFER DWG C-113

(37456 - Landing Boardwalk)

LINZ BOUNDARY

MARINA

FLOATING BREAKWATER, PILED

5x900ø MOORING PILES

SUPERYACHT MOORING AREA

(37463 - breakwater & mooring piles)

PLAZA

BUS STOP

SEAPLANE HANGAR

(37457 - Seawall)

SEA WALL

SUNDERLAND HANGAR

MIXED USE SHED

MIXED USE SHED

HUDSON BAY ROAD

MARINE INDUSTRY PRECINT

5x900ø MOORING PILES

MAIN FINISHING BERTH AND WHARF
REFER DWG C-114
REFER DWG S-102 FOR STRUCTURAL

(37464 - Finishing berth)

220T TRAVEL LIFT (STAGE 1)

FUTURE SHIP LIFT/TRAVEL LIFT (STAGE 2)

(37465 - Launch facility)

BEACH

RECREATIONAL BOAT RAMP
REFER DWG C-116

(37466 - Rec boat ramp & pontoon)

EXTENT OF DREDGING
REFER DWG C-122

BREAKWATER / HEADLAND STRUCTURE
REFER DWG C-116

(37468 - Artificial Headland)

RESOURCE CONSENT
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	FOR RESOURCE CONSENT	VDLT			
A	FOR INFORMATION	AJS			

Drawing Originator: Beca

Original Scale (A3): 1:2000

Design	RAF	APR '09
Drawn	AJS /VDLT	APR 09
Dsg Verifier		
Dwg Check		

Approved For Construction* Date

* Refer to Revision 1 for Original Signature

DO NOT SCALE

Client: HOBSONVILLE LAND COMPANY

Project: THE LANDING COASTAL CONSENT

Title: PROPOSED COASTAL STRUCTURES AND WORKS OVERALL LAYOUT

Discipline: CIVIL

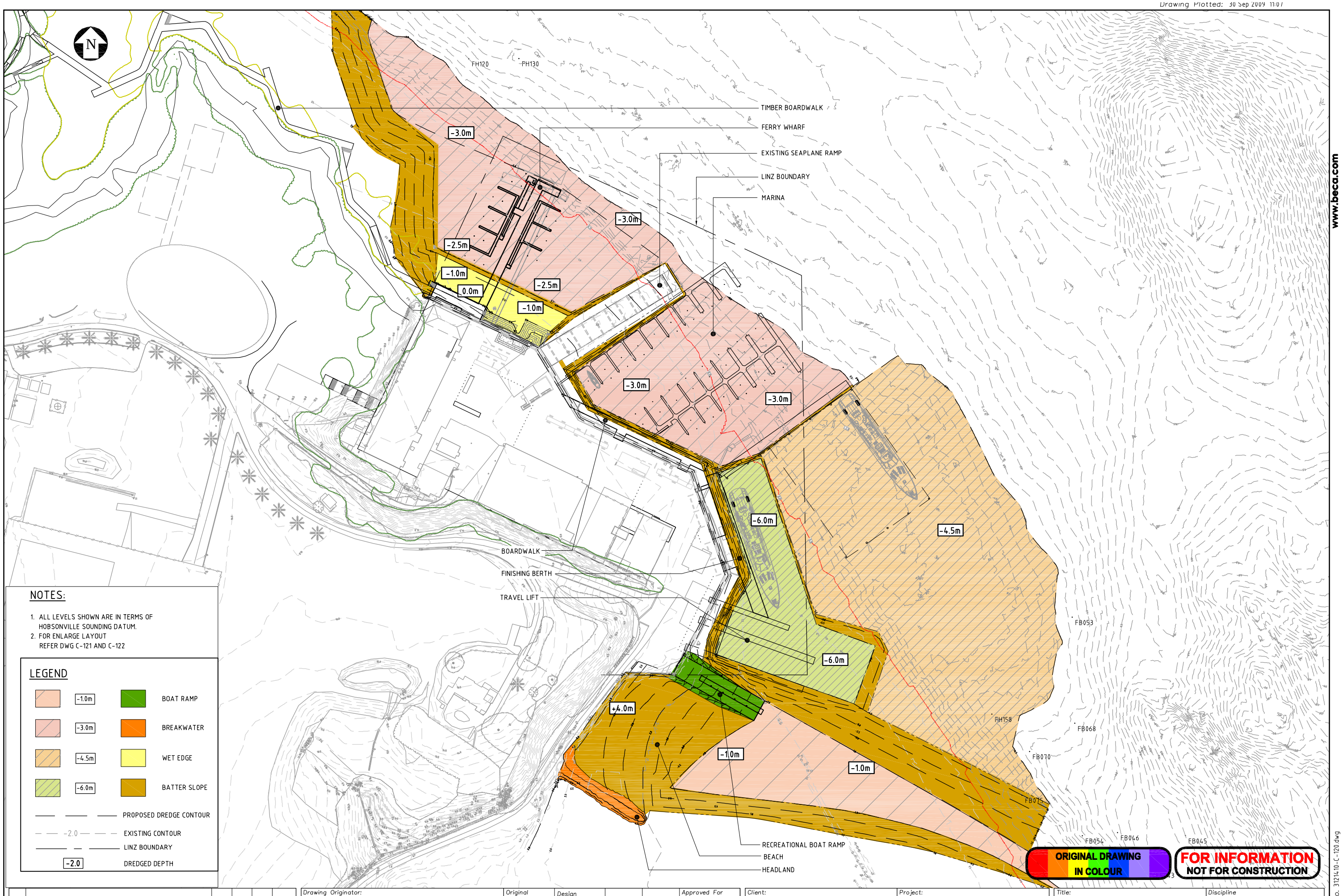
Drawing No.: 3121410-C-110

Rev.: B

IF IN DOUBT ASK.

APPENDIX 4
EXISTING DREDGING CONSENT PLANS

Drawing Plotted: 30 Sep 2009 11:01



NOTES:

1. ALL LEVELS SHOWN ARE IN TERMS OF HOBSONVILLE SOUNDING DATUM.
2. FOR ENLARGE LAYOUT REFER DWG C-121 AND C-122

LEGEND

	-1.0m		BOAT RAMP
	-3.0m		BREAKWATER
	-4.5m		WET EDGE
	-6.0m		BATTER SLOPE
			PROPOSED DREDGE CONTOUR
	-2.0		EXISTING CONTOUR
			LINZ BOUNDARY
	-2.0		DREDGED DEPTH

ORIGINAL DRAWING IN COLOUR

FOR INFORMATION NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	FOR RESOURCE CONSENT	VDLT			
A	FOR INFORMATION	AJS			

Drawing Originator: Beca

Original Scale (A3): 1: 2000

			Approved For Construction*
Design			
Drawn	AJS	APR 09	
Dsg Verifier			
Dwg Check			Date

* Refer to Revision 1 for Original Signature

Client: HOBSONVILLE LAND COMPANY

Project: THE LANDING COASTAL CONSENT

Title: OVERALL DREDGING EXTENTS

Discipline: CIVIL

Drawing No.: 3121410-C-120

Rev.: B

DO NOT SCALE

IF IN DOUBT ASK.

www.beca.com

Document No. 3121410-C-120.dwg

TOP OF SLOPE

BOTTOM OF SLOPE

EXISTING MOORINGS

TIMBER BOARDWALK
RL +4.50m

EXTENT OF DREDGING

FERRY WHARF
RL +5.00m

TOP OF EXISTING SEAWALL

TIDAL STEPS

EXISTING SEAPLANE RAMP

MARINA BERTHS

FH120

FH130

-3.0m

-2.5m

-1.0m

0.0m

-4.5m

TIDE LEVELS (m) (HSD)	
HAT	3.82
MHWS	3.42
MHWN	2.85
MSL	1.90
L & S DATUM	1.83
MLWN	0.98
MLWS	0.38
HSD	0.00

NOTE:

1. ALL LEVELS SHOWN ARE IN TERMS OF HOBSONVILLE SOUNDING DATUM.

LEGEND

- -1.0m
- -3.0m
- -4.5m
- -6.0m
- BOAT RAMP
- BREAKWATER
- WET EDGE
- BATTER SLOPE
- PROPOSED DREDGE CONTOUR
- -2.0 EXISTING CONTOUR
- LINZ BOUNDARY
- -2.0 DREDGED DEPTH

FOR CONTINUATION REFER DWG C-122

ORIGINAL DRAWING IN COLOUR

RESOURCE CONSENT
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	FOR RESOURCE CONSENT	VDLT			
A	FOR INFORMATION	AJS			

Drawing Originator: Beca

Original Scale (A3) 1:1000

			Approved For Construction*
Design			
Drawn	AJS	APR 09	
Dsg Verifier			
Dwg Check			Date

* Refer to Revision 1 for Original Signature

Client: HOBSONVILLE LAND COMPANY

Project: THE LANDING COASTAL CONSENT

Title: EXTENTS OF DREDGING SHEET 1 OF 2

Discipline: CIVIL

Drawing No.: 3121410-C-121

Rev.: B

Drawing Plotted: 30 Sep 2009 11:08

FOR CONTINUATION REFER DWG C-121

-3.0m

-6.0m

-4.5m

-1.0m

+4.0m

TOP OF SEAWALL

BOARDWALK
RL +4.50m

FINISHING BERTH
RL +5.00m

LAUNCH STRUCTURES

RECREATIONAL BOAT RAMP

BEACH

HEADLAND

EXTENT OF DREDGING

EXTENT OF DREDGING

EXISTING MOORING (TYP)

FB053

FH158

FB068

FB070

FB075

FB054

FB046

TIDE LEVELS (m) (HSD)	
HAT	3.82
MHWS	3.42
MHWN	2.85
MSL	1.90
L & S DATUM	1.83
MLWN	0.98
MLWS	0.38
HSD	0.00

NOTE:

1. ALL LEVELS SHOWN ARE IN TERMS OF HOBSONVILLE SOUNDING DATUM.

LEGEND

- -1.0m
- -3.0m
- -4.5m
- -6.0m
- BOAT RAMP
- BREAKWATER
- WET EDGE
- BATTER SLOPE
- PROPOSED DREDGE CONTOUR
- -2.0 EXISTING CONTOUR
- LINZ BOUNDARY
- -2.0 DREDGED DEPTH

ORIGINAL DRAWING IN COLOUR

RESOURCE CONSENT NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	FOR RESOURCE CONSENT	VDLT			
A	FOR INFORMATION	AJS			

Drawing Originator: Beca

Original Scale (A3): 1: 1000

			Approved For Construction*
Design			
Drawn	VDLT	APR 09	
Dsg Verifier			
Dwg Check			Date

* Refer to Revision 1 for Original Signature

Client: HOBSONVILLE LAND COMPANY

Project: THE LANDING COASTAL CONSENT

Title: EXTENTS OF DREDGING SHEET 2 OF 2

Discipline: CIVIL

Drawing No.: 3121410-C-122

Rev.: B

DO NOT SCALE

IF IN DOUBT ASK.

www.beca.com

Document No. 3121410-C-122.dwg

APPENDIX 5
CATALINA BAY REGENERATION SUMMARY

CATALINA BAY KEY DEVELOPMENT MILESTONES

POST PWA AGREEMENT

LEGEND

2010

Coastal Permits are granted to construct, occupy and use coastal structures including a public ferry wharf, marina, boardwalks and launching facilities and activities in the Coastal Marine Area (CMA).

i — Constructed public ferry wharf – in operation

2015

Construction/redevelopment of Launch Road and pedestrian access – provides road capable of carrying superyachts and improved urban design outcomes

---

2016

Willis & Bond gain the rights to develop Catalina Bay into a Mixed Use hub using a master plan approach

---

2017/2018/EARLY 2019

Stage 1 of Willis Bond masterplan – refurbishment of existing RNZAF character buildings providing commercial, hospitality and retail opportunities

A — Existing Catalina Workshop Buildings

B — Existing GRP Building

C — Existing Sunderland Hangar Building

2019 & BEYOND

Stage 2-4 of Willis Bond masterplan – Proposed construction of 60-80 residential apartments in Stage 2. Proposed construction of new-build commercial, hospitality and retail buildings in Stages 3 and 4. Detailed design unavailable.

A — Proposed Yacht Club Apartments Site

B — Proposed Catalina Bay Apartments Site

Subdivision consents being processed with Council to create underlying Lots 1-4, 10 and 100 DP 511649 (first consent) then LOTS 1-5 & 6 (second consent). LOTS 1, 2 and 6 subject to 'no build' covenant.

Local Purpose Reserve and Recreation Reserve (vested to Auckland Council in 2018)

Roads to vest as applied for in consents currently being processed by Council or to be applied at a later stage

ii — Right of way easement for bus tracking (existing)

APPENDIX 6
ARCHITECTURE PLAN SET

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client
HLC

Project No.
1852

Project Name / Location
Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point

RC01	Title Page
RC02	Site Plan
RC03	Forecourt Plan
RC04	Foundation and Earthworks Plan
RC05	Jetty Foundation Plan
RC06	Ground Floor Plan
RC07	Upper Floor Plan
RC08	Building Elevations
RC09	Building Elevations II
RC10	Jetty
RC11	Site - AUP Zoning Plan

Drawing Title
Title Page

Created
24/10/19

Page
1 of 11

Stage
Resource Consent Application

Scale

Drawing Number
RC01

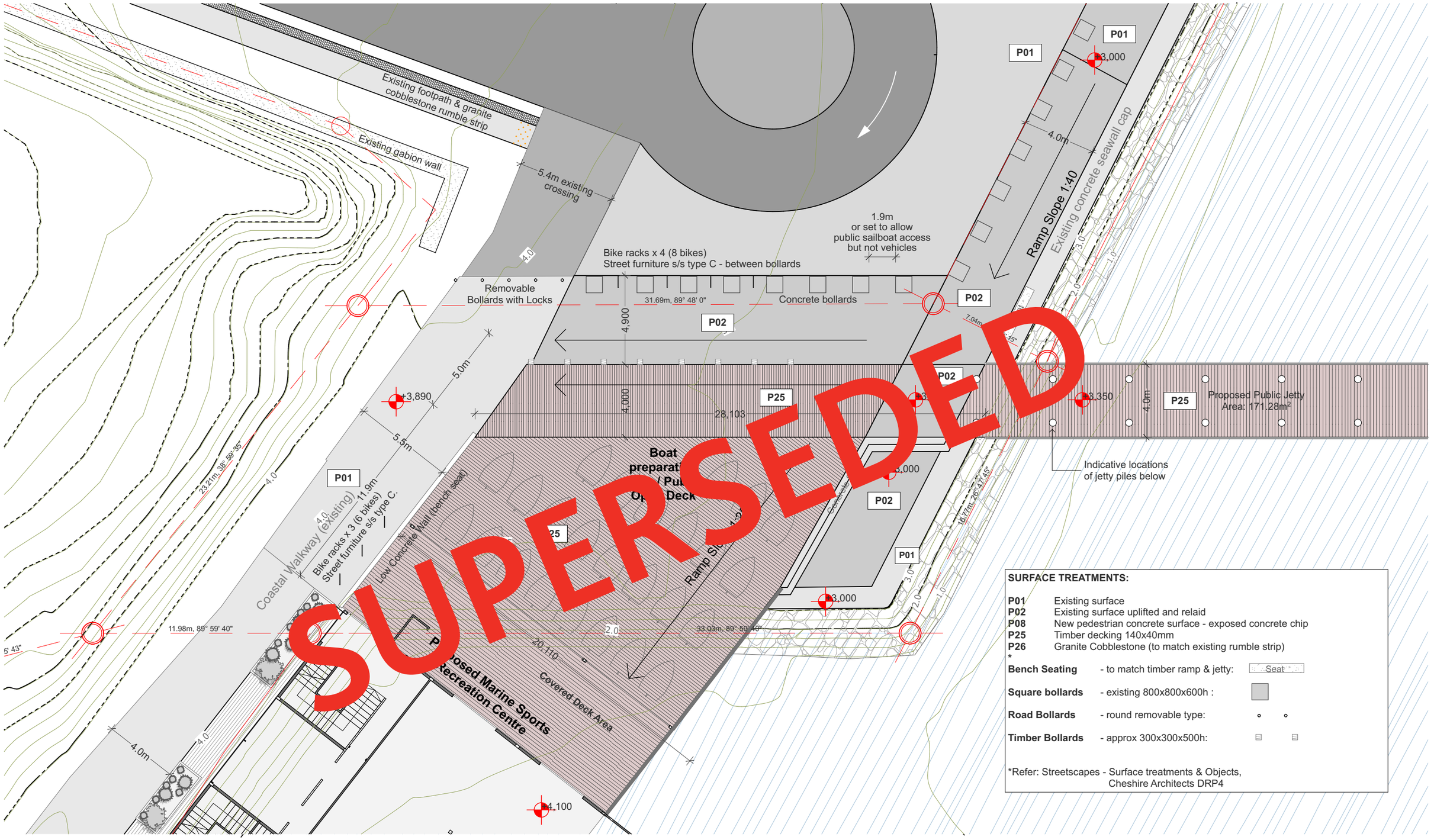
Revision Number

SGA Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location		Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point		Site Plan	24/10/19	Resource Consent Application	RC02
Project No. 1852				**Page** 2 of 11	**Scale** 1:500 at A3	**Revision Number**



SURFACE TREATMENTS:

P01	Existing surface	
P02	Existing surface uplifted and relaid	
P08	New pedestrian concrete surface - exposed concrete chip	
P25	Timber decking 140x40mm	
P26	Granite Cobblestone (to match existing rumble strip)	
*		
Bench Seating	- to match timber ramp & jetty:	Seat
Square bollards	- existing 800x800x600h :	
Road Bollards	- round removable type:	
Timber Bollards	- approx 300x300x500h:	

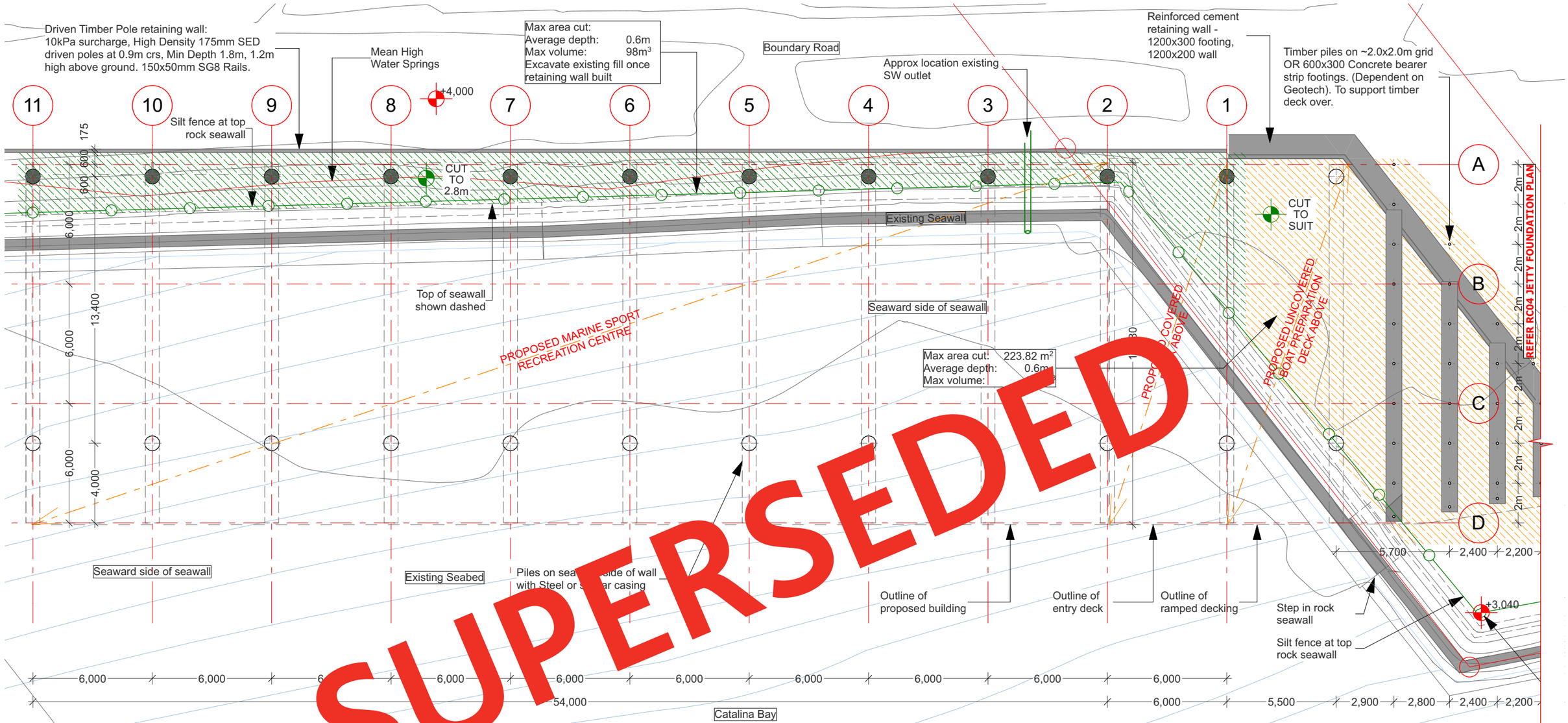
*Refer: Streetscapes - Surface treatments & Objects, Cheshire Architects DRP4

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client HLC	**Project Name / Location** Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point		**Drawing Title** Forecourt Plan	**Created** 24/10/19	**Stage** Resource Consent Application	**Drawing Number** RC03
Project No. 1852				**Page** 3 of 11	**Scale** 1:200 at A3	**Revision Number**



SUPERSEDED

Key:

- 750mm ⌀ Bored reinforced concrete pile into bank (land side of sea wall)
- 750mm ⌀ Bored reinforced concrete pile with Steel or similar casing for sea-side installations.
- Timber piles on ~2.0x2.0m grid to support timber deck over
- 1000x400mm (excl corbel) Precast Concrete Beam
- Driven Timber Pole retaining wall: 10kPa surcharge, High Density 175mm SED driven poles at 0.9m crs, Min Depth 1.8m, 1.2m high above ground. 150x50mm SG8 Rails.
- Jetty Piles 300⌀ at 4200 Crs
- Temporary Silt Fence to ARC TP90 Erosion and Sediment control guidelines

Construction Sequences:

Marine Sport Recreation Centre Construction Sequence:

- Install bored reinforced concrete piles (casing or sheet pile caisson to seaward side)
  - *Geotech guidance for the building platform:*
  - *Bored piles for the building platform: either permanent or temporary casing would be adopted to prevent the collapse of the bored holes during drilling. Auger will be used to construct piles in ECBF rock with the minimum embedment depth of 3 x pile diameter. A tremie method should be chosen to pour the concrete.*
- Land primary PB1 precast concrete beams
- Land secondary PB2 precast concrete beams
- Install timber floor / decking units
- Carry on with timber construction above in a traditional manner

Jetty Construction Sequence:

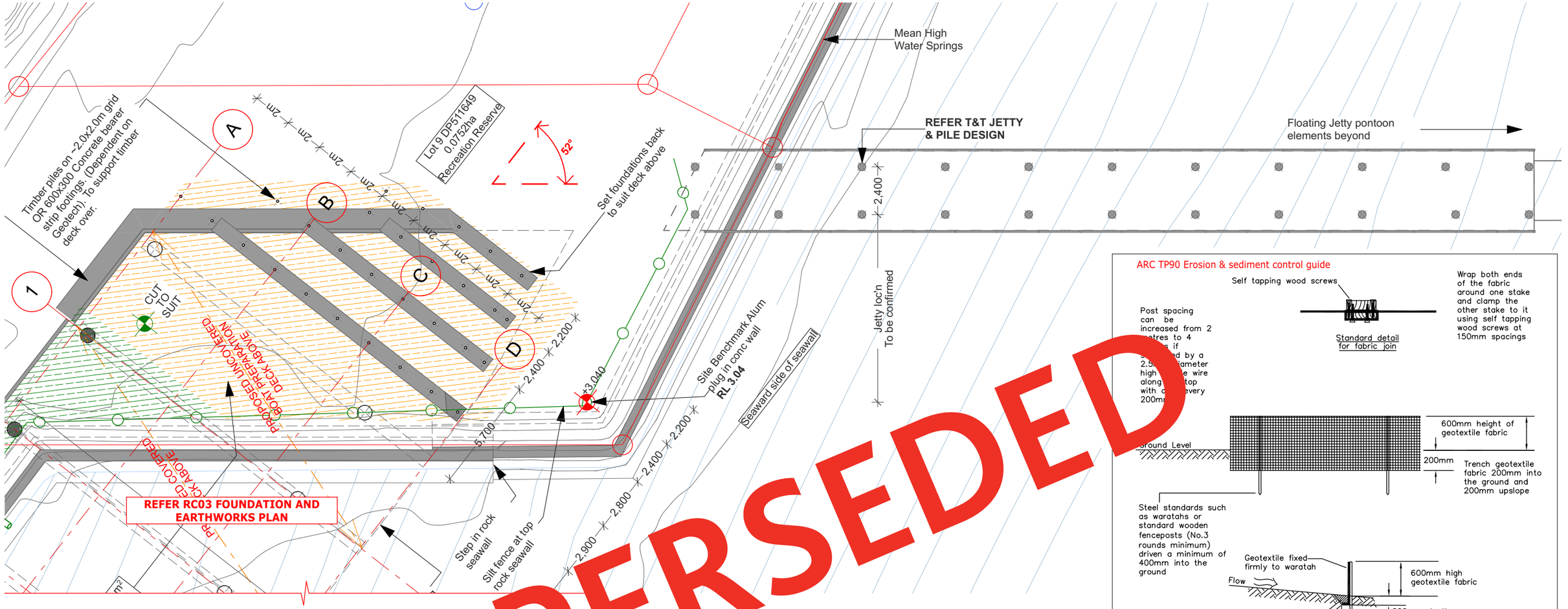
- Timber jetty piles – auger a hole approx. 90% of pile diameter, sharpen end of pile and impact hammer in.
- It is likely that land and marine (barge) rigs will be used, this will be up to the contractor, both should be considered.

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location		Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point		Foundation and Earthworks Plan	24/10/19	Resource Consent Application	RC04
Project No. 1852				**Page** 4 of 11	**Scale** 1:200 at A3	**Revision Number**



Key:

- 750mm ⌀ Bored reinforced concrete pile into bank (land side of sea wall)
- 750mm ⌀ Bored reinforced concrete pile with Steel or similar casing for sea-side installations.
- Timber piles on ~2.0x2.0m grid to support timber deck over
- 1000x400mm (excl corbel) Precast concrete
- Driven Timber retaining wall: surcharge, High Density 175m ED drive 0.9m cr Depth 1.8m, 1. gh abo ground. 150x50m 8 Rails.
- Jetty Piles 300⌀ at Crs
- Fence on and Sediment guideli

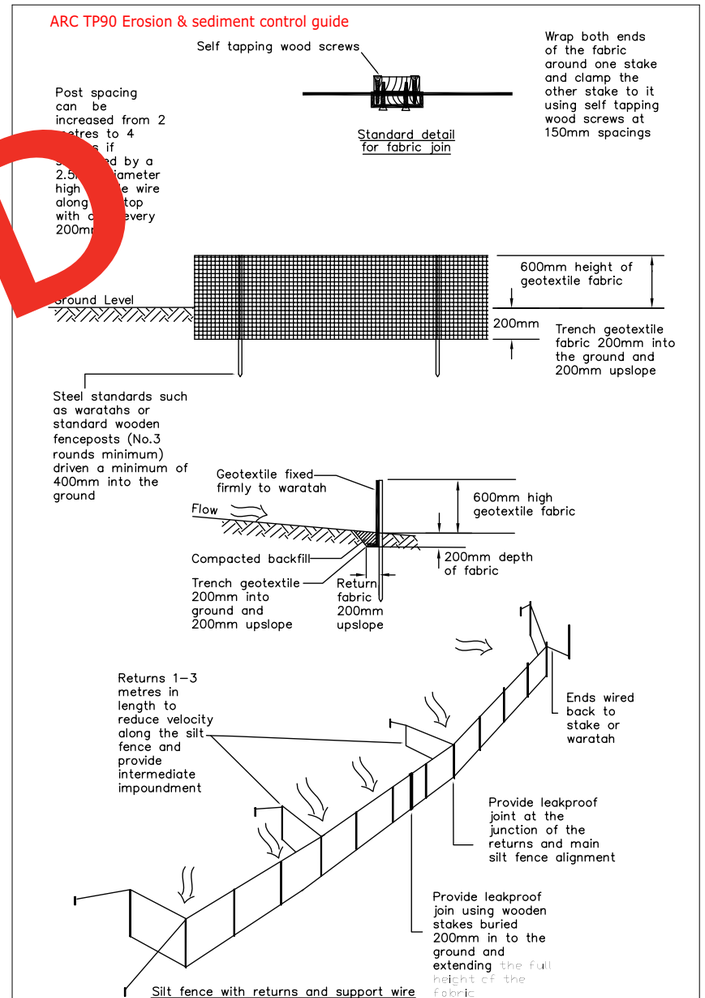
Construction Sequences:

Marine Sport Recreation Centre Construction Sequence:

- Install bored reinforced concrete piles (casing or sheet pile caisson to seaward side)
- *Geotech guidance for the building platform:*
- *Bored piles for the building platform: either permanent or temporary casing would be adopted to prevent the collapse of the bored holes during drilling. Auger will be used to construct piles in ECBF rock with the minimum embedment depth of 3 x pile diameter. A tremie method should be chosen to pour the concrete.*
- Land primary PB1 precast concrete beams
- Land secondary PB2 precast concrete beams
- Install timber floor / decking units
- Carry on with timber construction above in a traditional manner

Jetty Construction Sequence:

- Timber jetty piles – auger a hole approx. 90% of pile diameter, sharpen end of pile and impact hammer in.
- It is likely that land and marine (barge) rigs will be used, this will be up to the contractor, both should be considered.

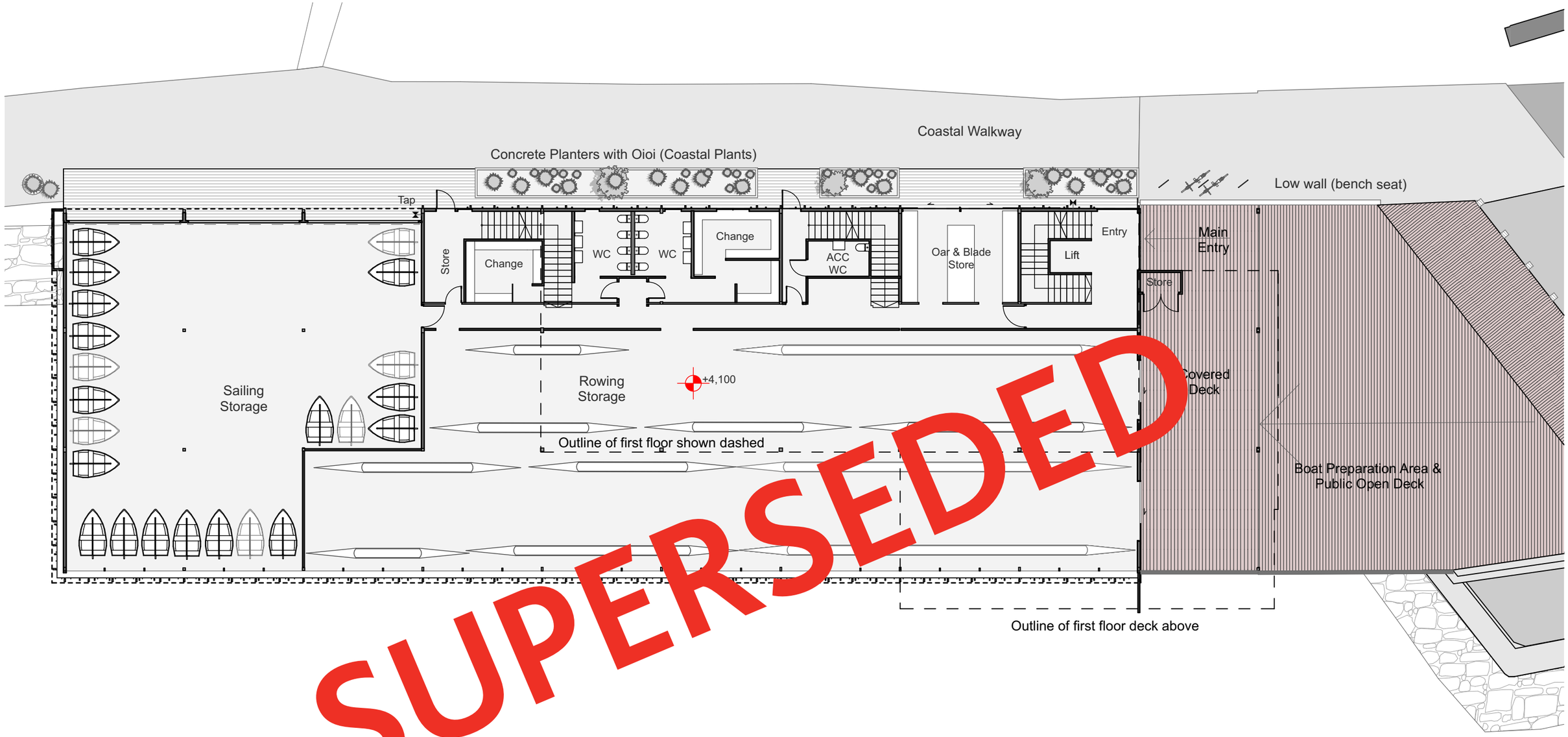


Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location		Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point		Jetty Foundation Plan	24/10/19	Resource Consent Application	RC05
Project No. 1852				**Page** 5 of 11	**Scale** 1:200 at A3	**Revision Number**

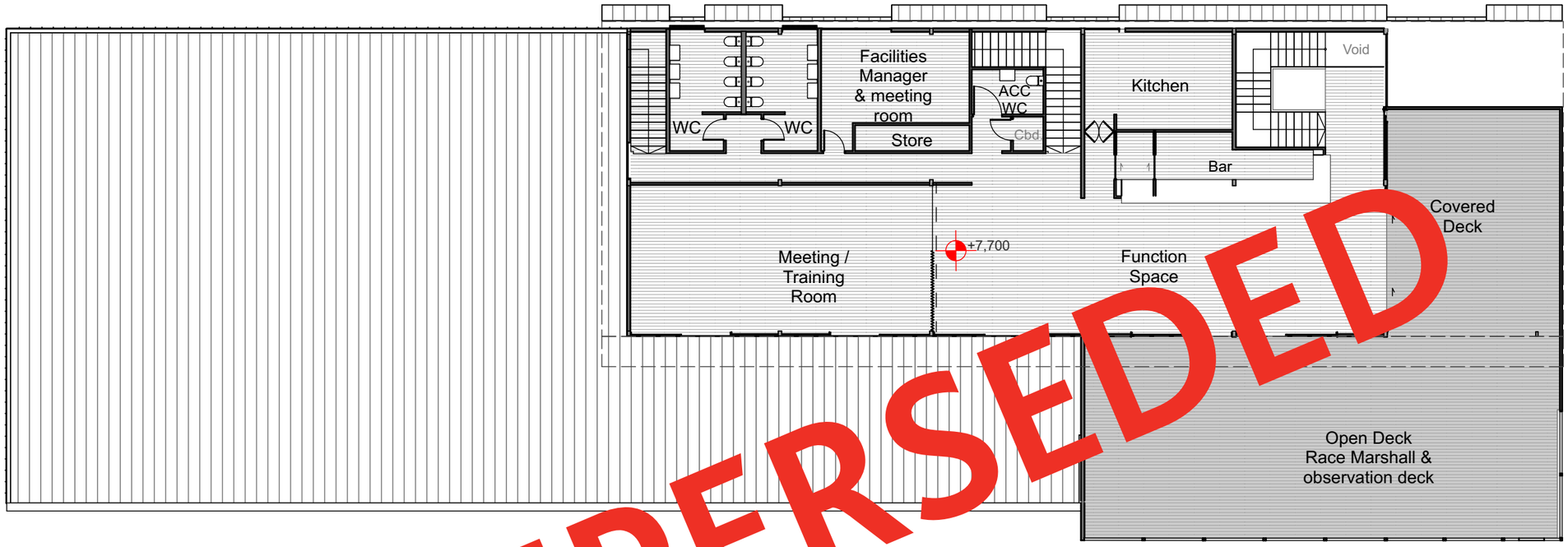


Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location		Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point		Ground Floor Plan	24/10/19	Resource Consent Application	RC06
Project No. 1852				**Page** 6 of 11	**Scale** 1:200 at A3	**Revision Number**

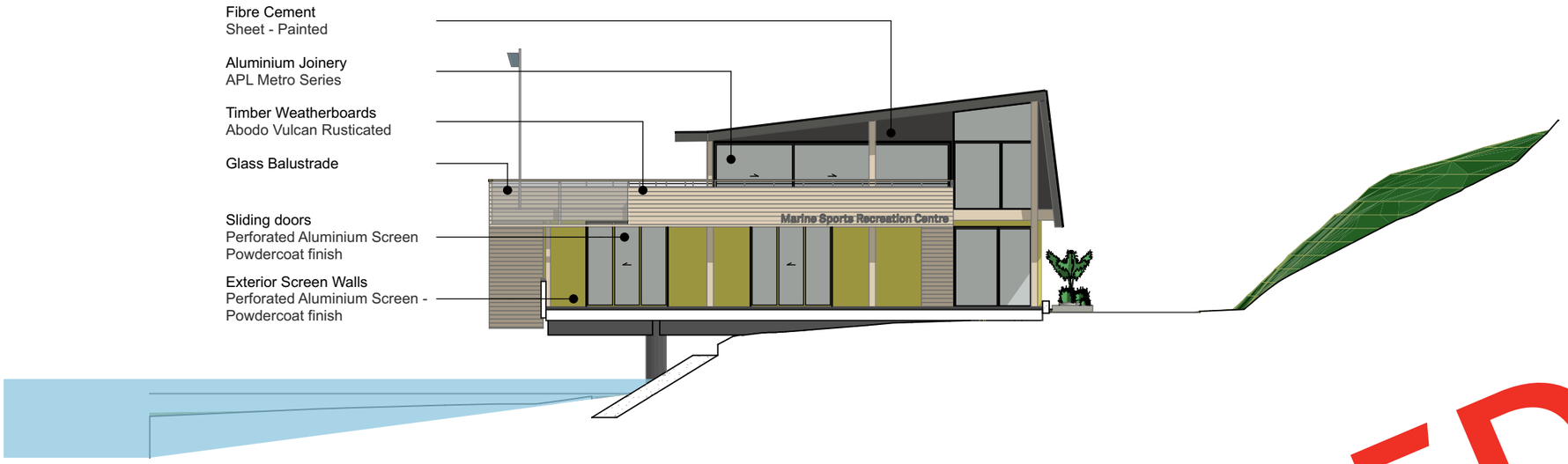


Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location		Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point		Upper Floor Plan	24/10/19	Resource Consent Application	RC07
Project No. 1852				**Page** 7 of 11	**Scale** 1:200 at A3	**Revision Number**



North East Elevation

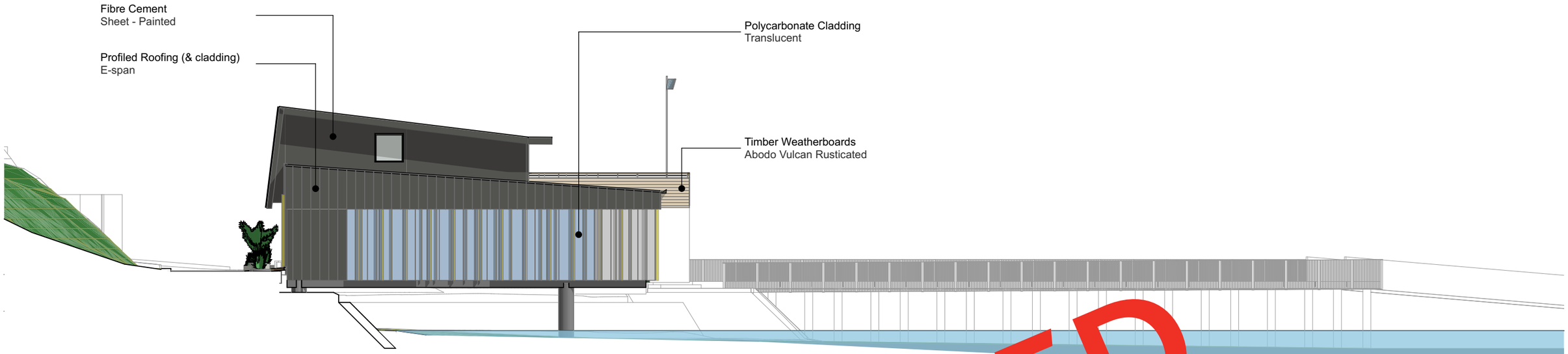
South East Elevation

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location		Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point		Building Elevations	24/10/19	Resource Consent Application	RC08
Project No. 1852				**Page** 8 of 11	**Scale** 1:200 at A3	**Revision Number**



South West Elevation

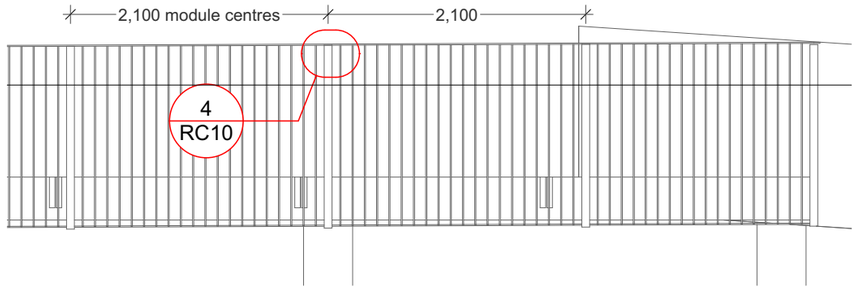
North West Elevation

SGA Strachan Group Architects

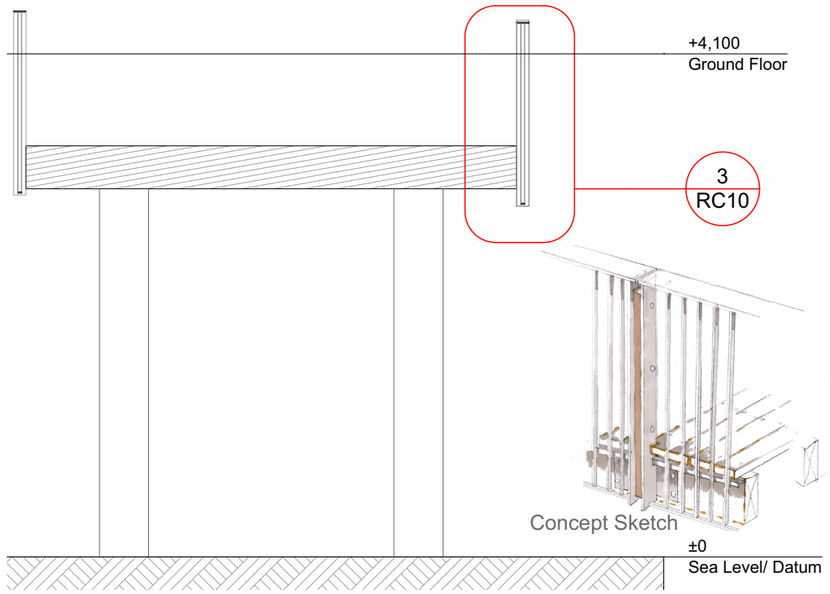
Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

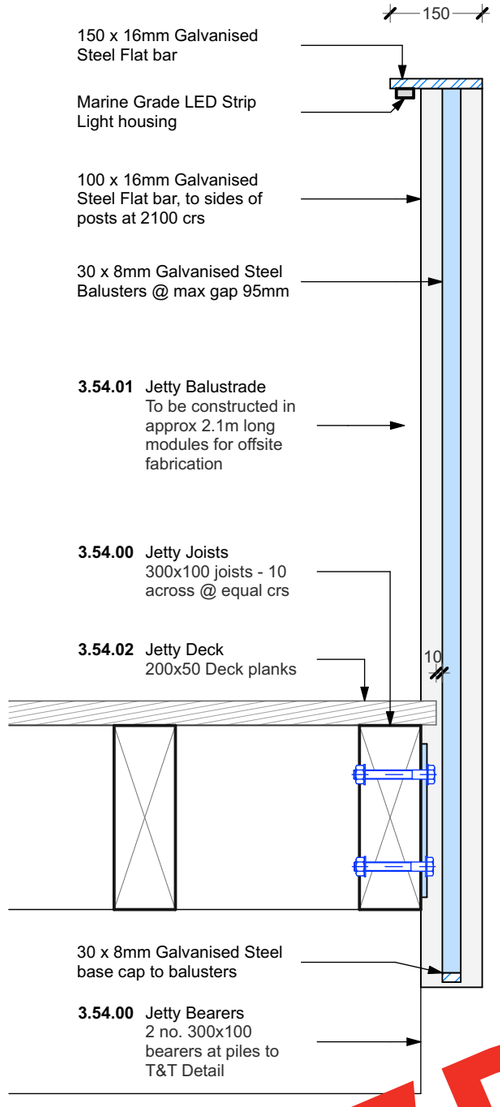
Client	Project Name / Location		Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point		Building Elevations II	24/10/19	Resource Consent Application	RC09
Project No. 1852				**Page** 9 of 11	**Scale** 1:200 at A3	**Revision Number**



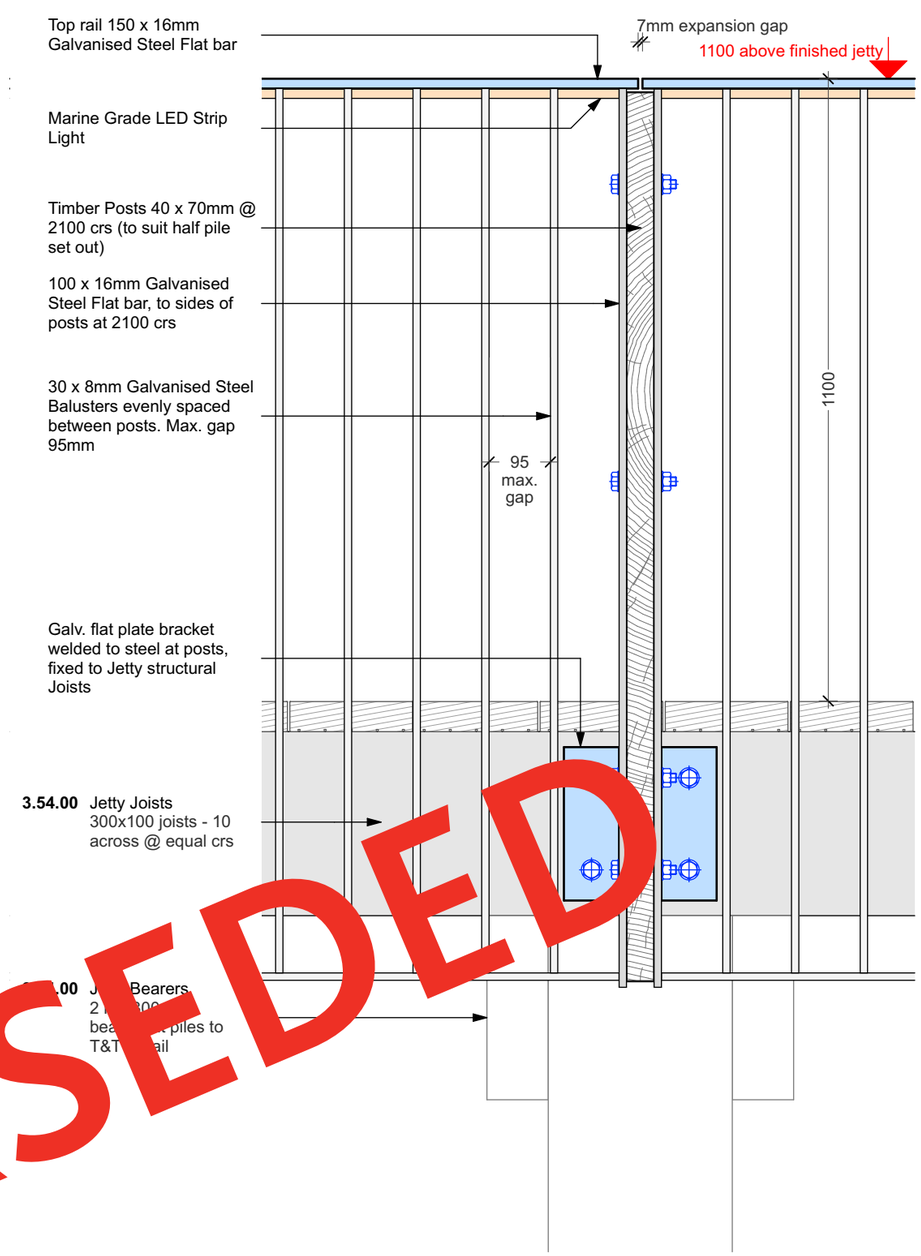
2 Jetty Elevation 1:50



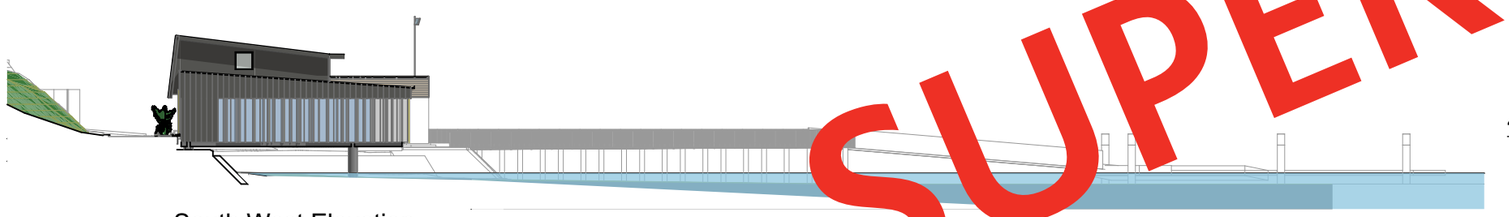
1 Jetty Section 1:50



3 Handrail Section Detail



4 Handrail Elevation Detail 1:10



South West Elevation

SUPERSEDED

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location		Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point	NOT FOR CONSTRUCTION THIS DESIGN IS SUBJECT TO ENGINEERS REVIEW PONTOON AND GANGWAY BY OTHERS	Jetty	24/10/19	Resource Consent Application	RC10
Project No. 1852				**Page** 10 of 11	**Scale** 1:50, 1:10, 1:500 at A3	**Revision Number**

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location		Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point		Site - AUP Zoning Plan	24/10/19	Resource Consent Application	RC11
Project No. 1852				**Page** 11 of 11	**Scale** 1:500 at A3	**Revision Number**

Revised Architectural Plan Set – dated 14/02/20

The following set of plans were submitted as part of a response to a request for further information received on 22 April 2020 and replace the originally submitted architectural plan set above.

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client
HLC

Project No.
1852

Project Name / Location
Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point

		Date
RC01	Title Page	
RC02-A	Site Plan	
RC03-A	Forecourt Plan	
RC04	Foundation and Earthworks Plan	
RC05	Jetty Foundation Plan	
RC06-A	Ground Floor Plan	
RC07-A	Upper Floor Plan	
RC08-A	Building Elevations	
RC09-A	Building Elevations II	
RC10	Jetty	
RC11-A	Site - AUP Zoning Plan	

Drawing Title
Title Page

Created
14/02/20

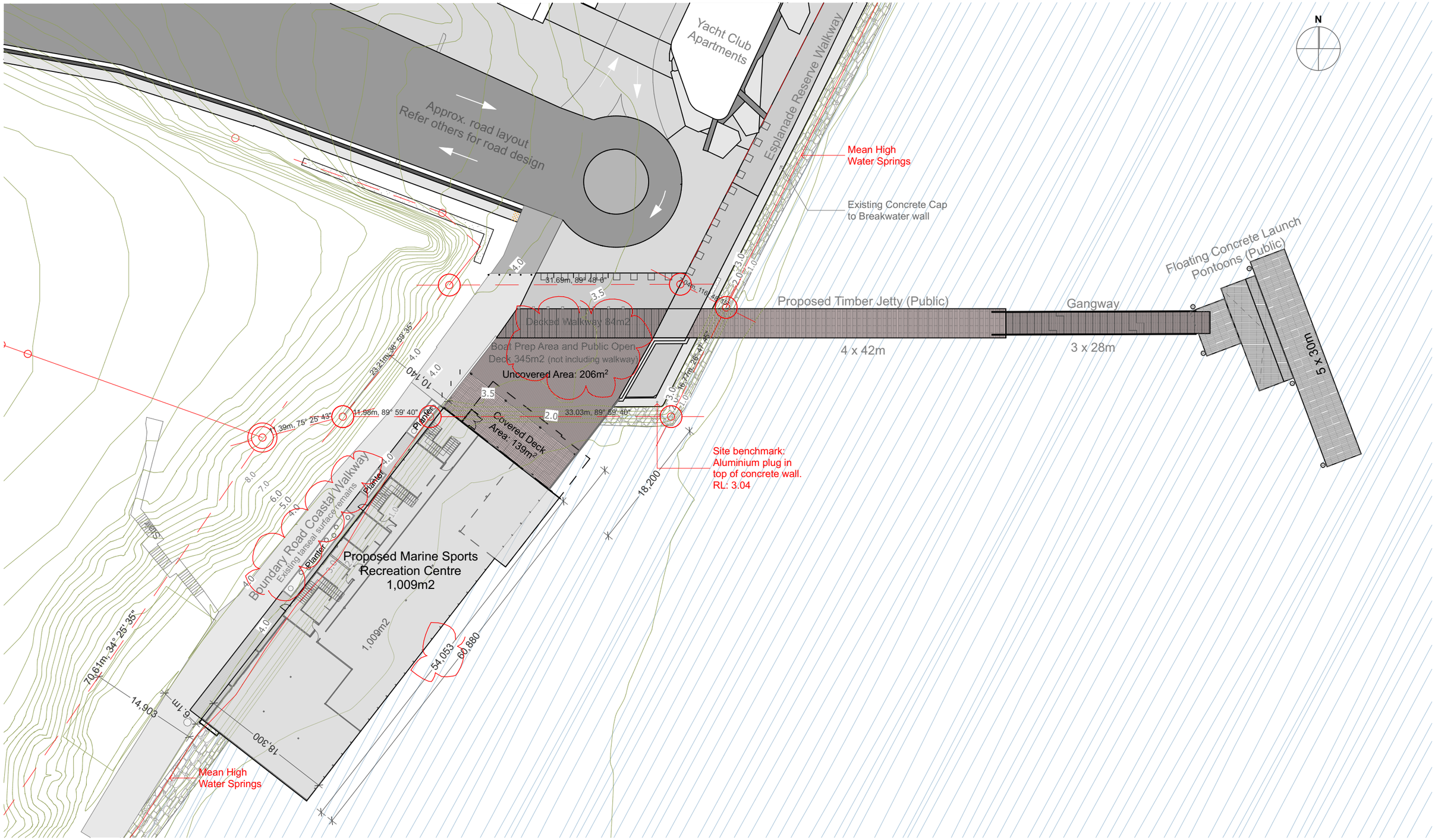
Stage
Resource Consent Application

Drawing Number
RC01

Page
1 of 11

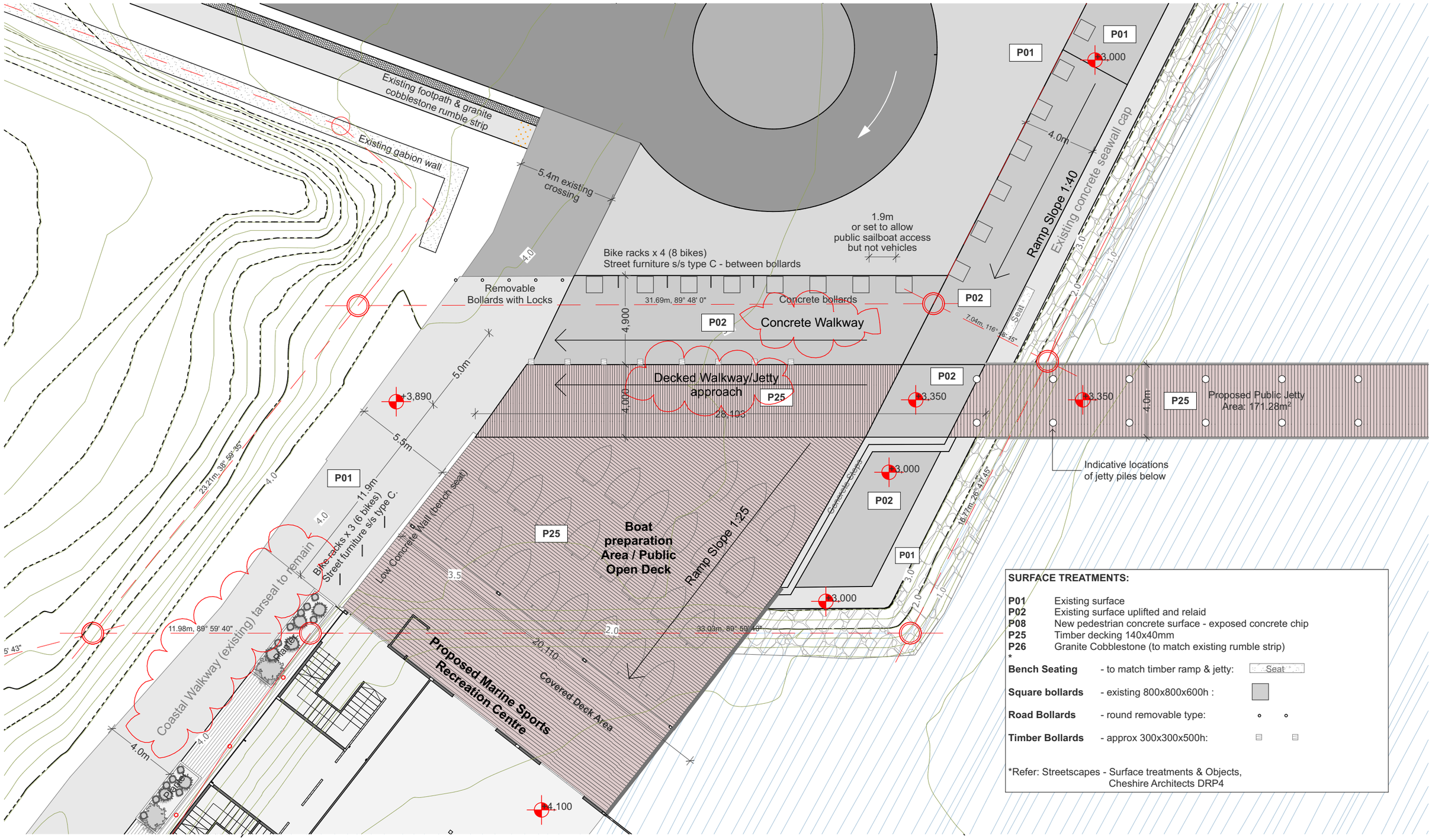
Scale

Revision Number



Studio 26 Rossmay Terrace, Kingsland Auckland 1024, New Zealand **Postal** PO Box 26-038, Epsom Auckland 1344, New Zealand **Contact** info@sgaltd.co.nz +64 9 638 6302 www.sgaltd.co.nz **This drawing is copyright SGA Limited 2002**	**Client** HLC **Project No.** 1852	**Project Name / Location** Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point	**Rev** A	**ID**	**Description** Text & Dimensions Added. Areas added/updated	**Date** 14.02.20	**Drawing Title** Site Plan	**Created** 14/02/20 **Page** 2 of 11	**Stage** Resource Consent Application **Scale** 1:500 at A3	**Drawing Number** RC02-A **Revision Number** A

Strachan Group Architects



SURFACE TREATMENTS:

P01	Existing surface	
P02	Existing surface uplifted and relaid	
P08	New pedestrian concrete surface - exposed concrete chip	
P25	Timber decking 140x40mm	
P26	Granite Cobblestone (to match existing rumble strip)	
*		
Bench Seating	- to match timber ramp & jetty:	Seat
Square bollards	- existing 800x800x600h :	
Road Bollards	- round removable type:	
Timber Bollards	- approx 300x300x500h:	

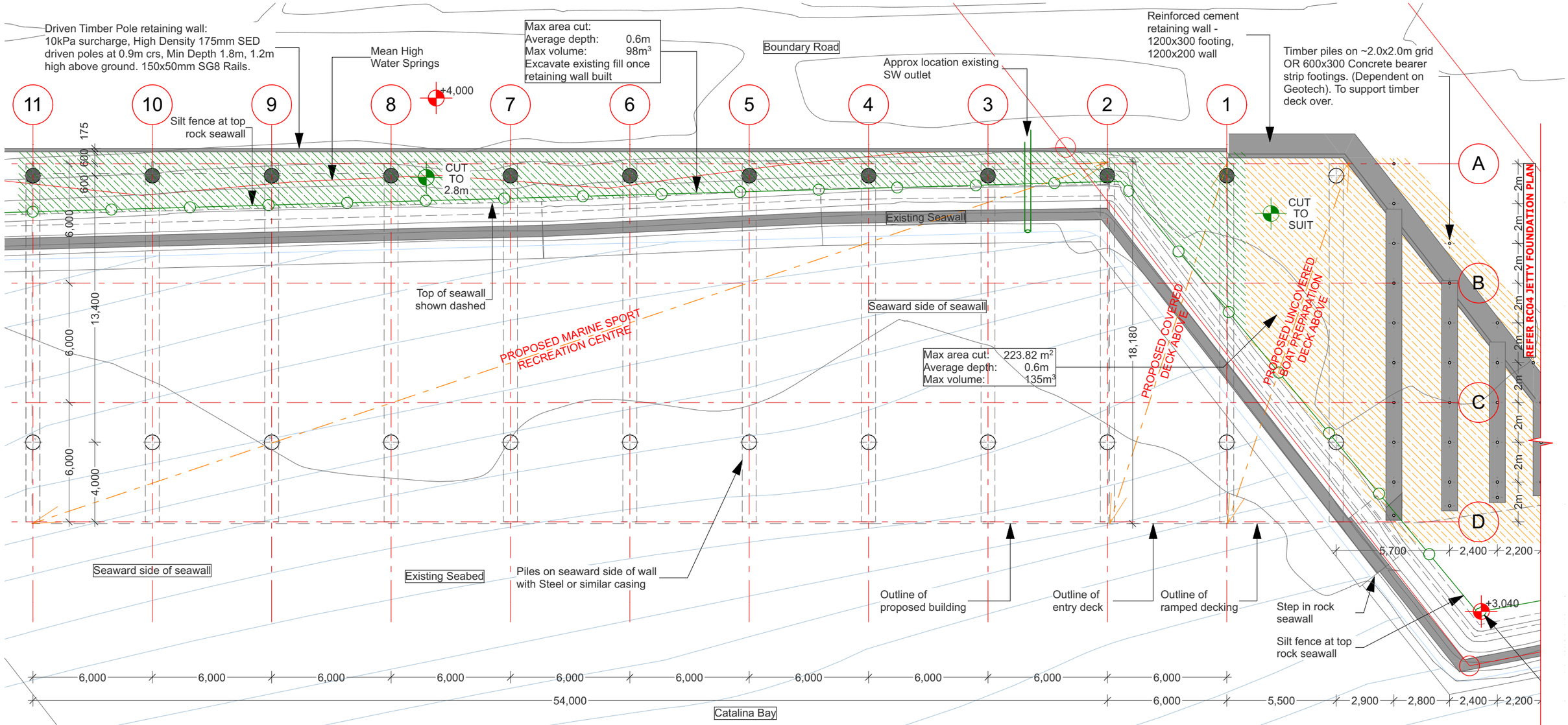
*Refer: Streetscapes - Surface treatments & Objects, Cheshire Architects DRP4

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point	A		Text added.	14.02.20	Forecourt Plan	14/02/20	Resource Consent Application	RC03-A
Project No. 1852							**Page** 3 of 11	**Scale** 1:200 at A3	**Revision Number** A



Key:

- 750mm ⌀ Bored reinforced concrete pile into bank (land side of sea wall)
- 750mm ⌀ Bored reinforced concrete pile with Steel or similar casing for sea-side installations.
- Timber piles on ~2.0x2.0m grid to support timber deck over
- 1000x400mm (excl corbel) Precast Concrete Beam
- Driven Timber Pole retaining wall: 10kPa surcharge, High Density 175mm SED driven poles at 0.9m crs, Min Depth 1.8m, 1.2m high above ground. 150x50mm SG8 Rails.
- Jetty Piles 300⌀ at 4200 Crs
- Temporary Silt Fence to ARC TP90 Erosion and Sediment control guidelines

Construction Sequences:

Marine Sport Recreation Centre Construction Sequence:

- Install bored reinforced concrete piles (casing or sheet pile caisson to seaward side)
  - *Geotech guidance for the building platform:*
  - *Bored piles for the building platform: either permanent or temporary casing would be adopted to prevent the collapse of the bored holes during drilling. Auger will be used to construct piles in ECBF rock with the minimum embedment depth of 3 x pile diameter. A tremie method should be chosen to pour the concrete.*
- Land primary PB1 precast concrete beams
- Land secondary PB2 precast concrete beams
- Install timber floor / decking units
- Carry on with timber construction above in a traditional manner

Jetty Construction Sequence:

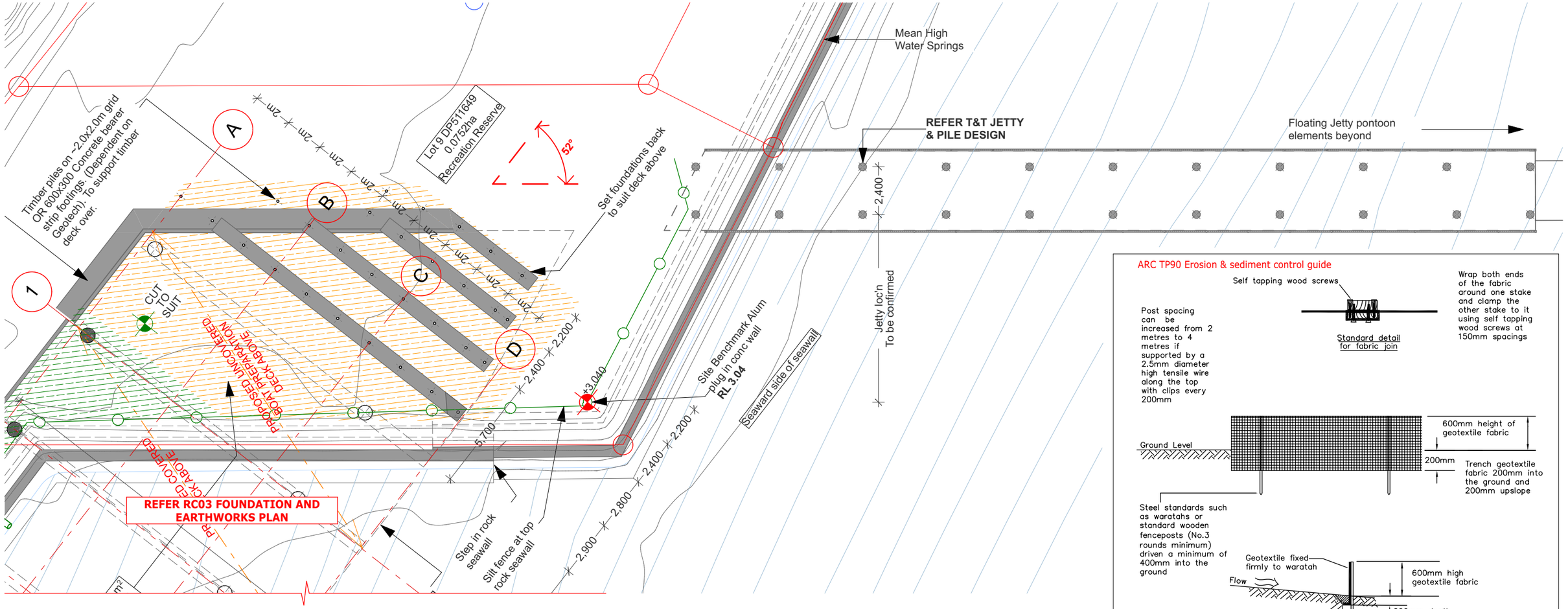
- Timber jetty piles – auger a hole approx. 90% of pile diameter, sharpen end of pile and impact hammer in.
- It is likely that land and marine (barge) rigs will be used, this will be up to the contractor, both should be considered.

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point					Foundation and Earthworks Plan	14/02/20	Resource Consent Application	RC04
Project No. 1852							**Page** 4 of 11	**Scale** 1:200 at A3	**Revision Number**



Key:

- 750mm ⌀ Bored reinforced concrete pile into bank (land side of sea wall)
- 750mm ⌀ Bored reinforced concrete pile with Steel or similar casing for sea-side installations.
- Timber piles on ~2.0x2.0m grid to support timber deck over
- 1000x400mm (excl corbel) Precast Concrete Beam
- Driven Timber Pole retaining wall: 10kPa surcharge, High Density 175mm SED driven poles at 0.9m crs, Min Depth 1.8m, 1.2m high above ground. 150x50mm SG8 Rails.
- Jetty Piles 300⌀ at 4200 Crs
- Temporary Silt Fence to ARC TP90 Erosion and Sediment control guidelines

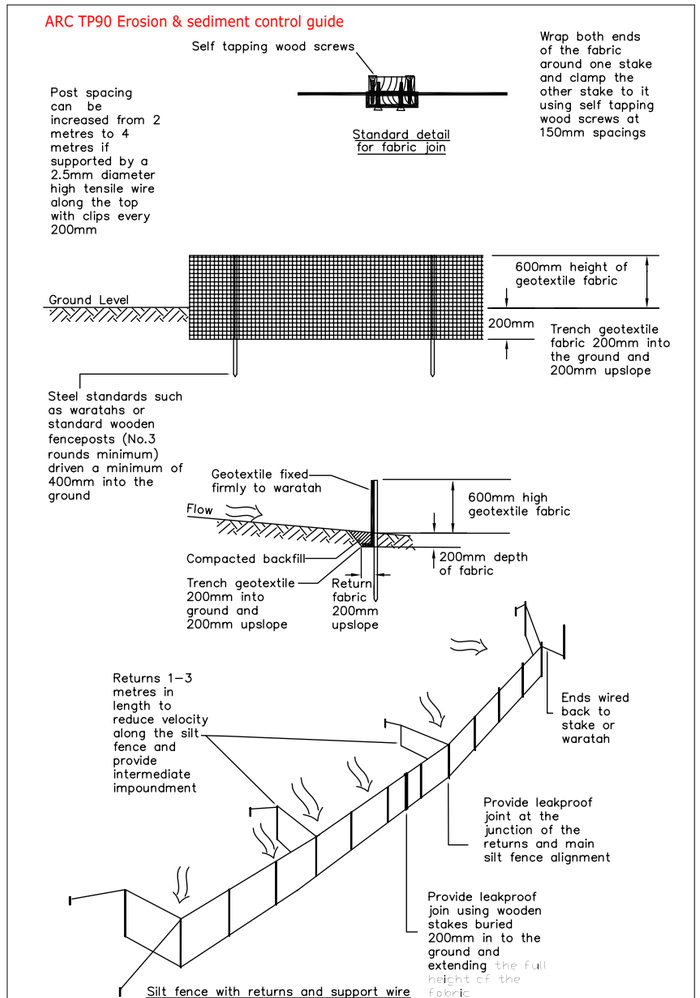
Construction Sequences:

Marine Sport Recreation Centre Construction Sequence:

- Install bored reinforced concrete piles (casing or sheet pile caisson to seaward side)
- *Geotech guidance for the building platform:*
- *Bored piles for the building platform: either permanent or temporary casing would be adopted to prevent the collapse of the bored holes during drilling. Auger will be used to construct piles in ECBF rock with the minimum embedment depth of 3 x pile diameter. A tremie method should be chosen to pour the concrete.*
- Land primary PB1 precast concrete beams
- Land secondary PB2 precast concrete beams
- Install timber floor / decking units
- Carry on with timber construction above in a traditional manner

Jetty Construction Sequence:

- Timber jetty piles – auger a hole approx. 90% of pile diameter, sharpen end of pile and impact hammer in.
- It is likely that land and marine (barge) rigs will be used, this will be up to the contractor, both should be considered.

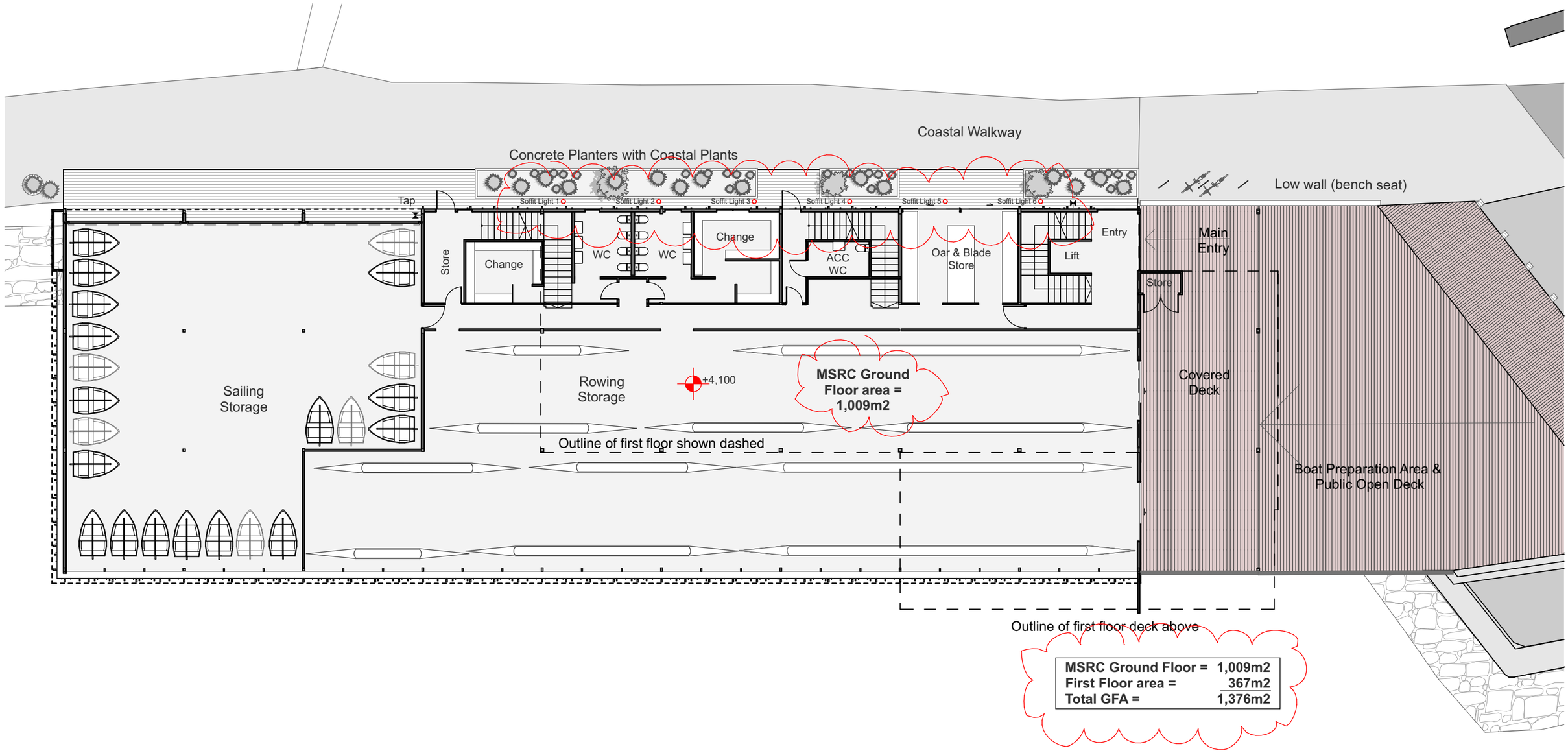


Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point					Jetty Foundation Plan	14/02/20	Resource Consent Application	RC05
Project No. 1852							**Page** 5 of 11	**Scale** 1:200 at A3	**Revision Number**

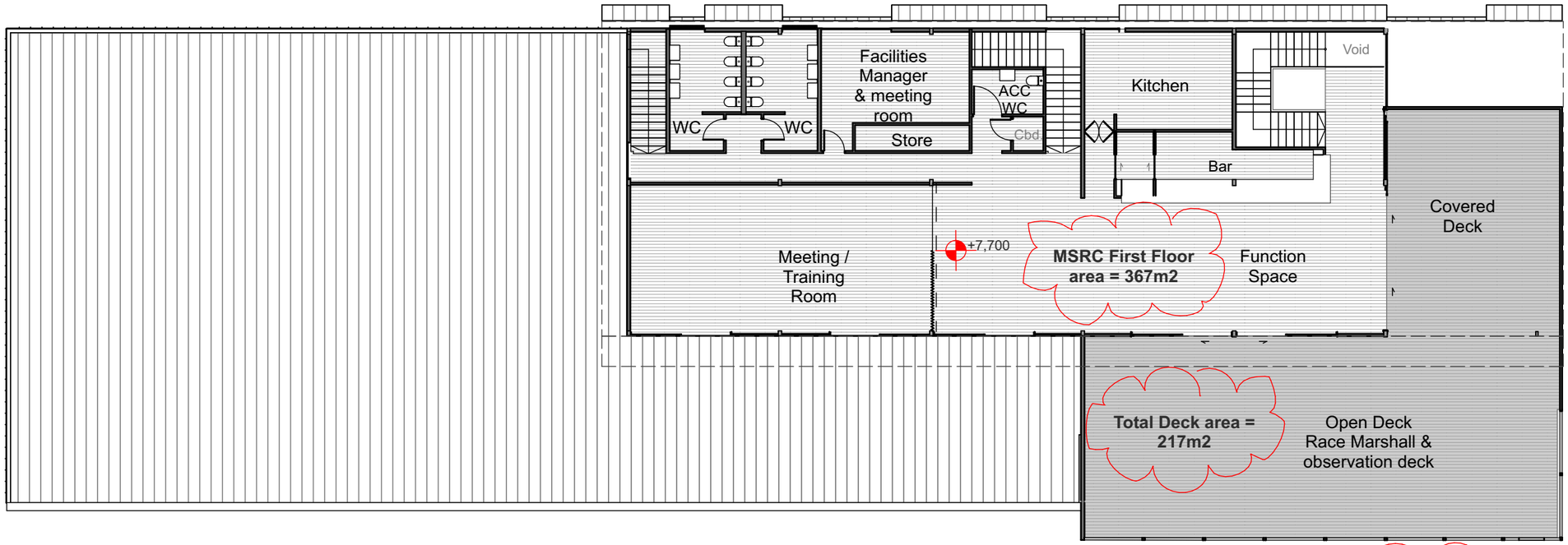


Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point	A		Areas added. Soffit lights indicated	14.02.20	Ground Floor Plan	14/02/20	Resource Consent Application	RC06-A
Project No. 1852							**Page** 6 of 11	**Scale** 1:200 at A3	**Revision Number** A



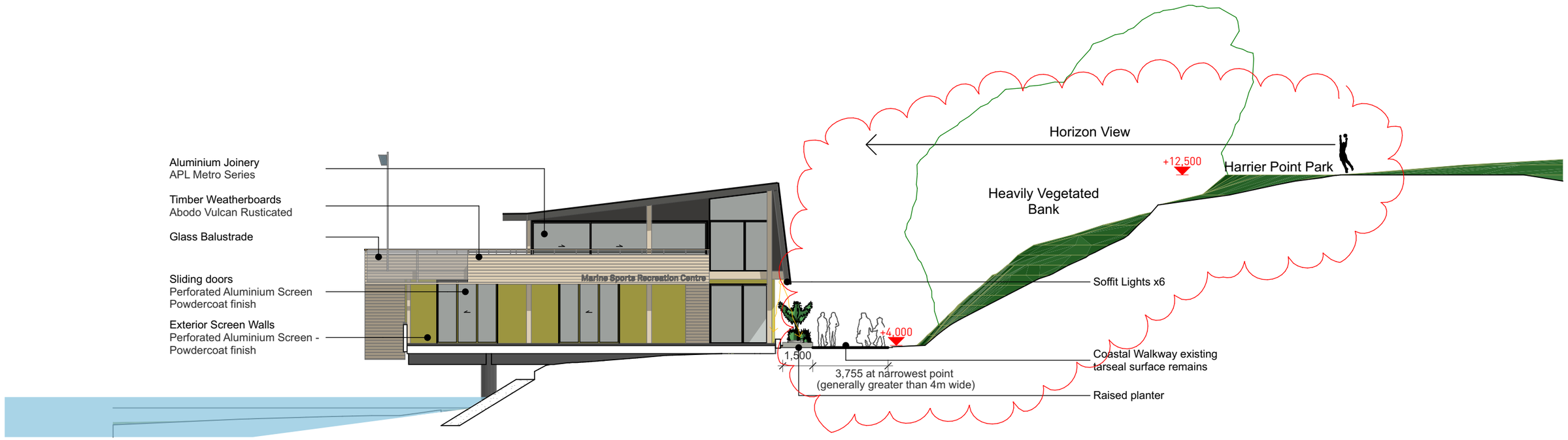
MSRC Ground Floor = 1,009m2
First Floor area = 367m2
Total GFA = 1,376m2

Strachan Group Architects

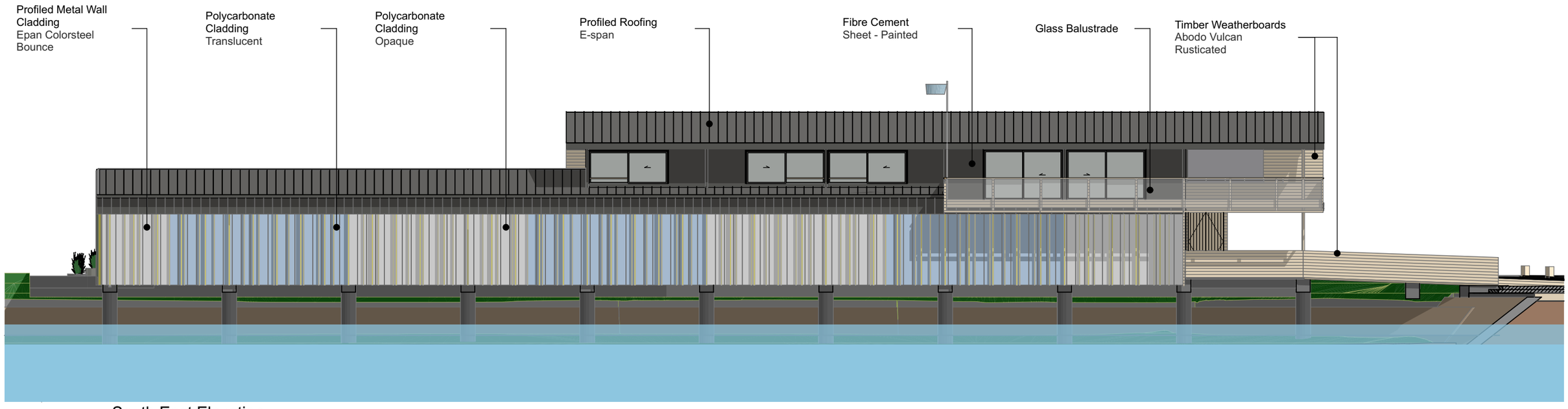
Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point	A		Areas added	14.02.20	Upper Floor Plan	14/02/20	Resource Consent Application	RC07-A
Project No. 1852							**Page** 7 of 11	**Scale** 1:200 at A3	**Revision Number** A



North East Elevation



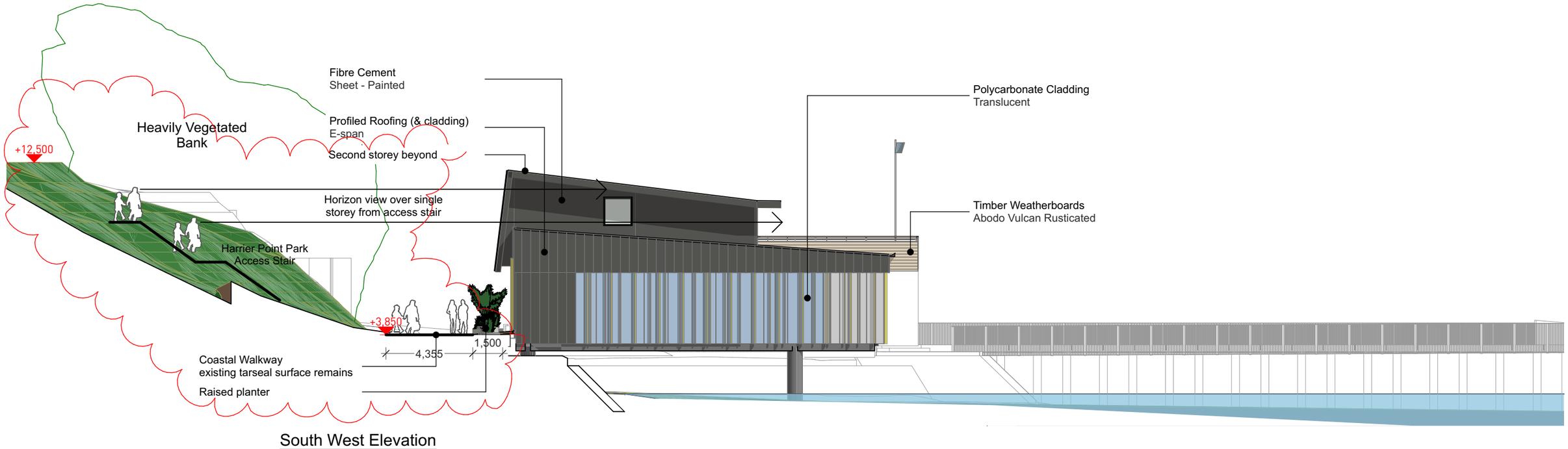
South East Elevation

Strachan Group Architects

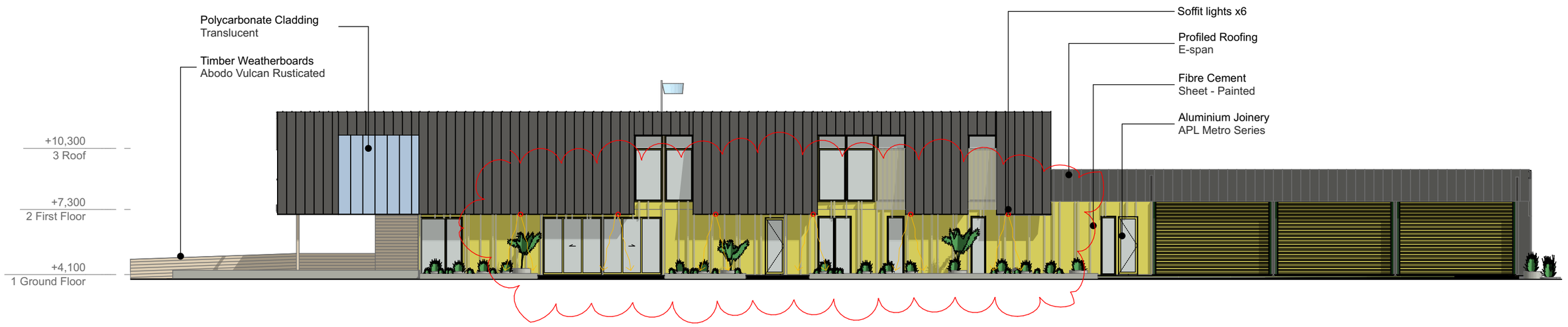
Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point	A		Coastal walkway & bank added to North East Elevation. Soffit lights indicated.	14.02.20	Building Elevations	14/02/20	Resource Consent Application	RC08-A
Project No. 1852							**Page** 8 of 11	**Scale** 1:200 at A3	**Revision Number**



South West Elevation



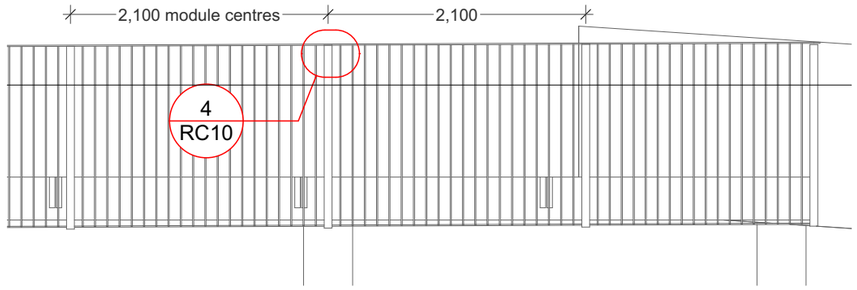
North West Elevation

Strachan Group Architects

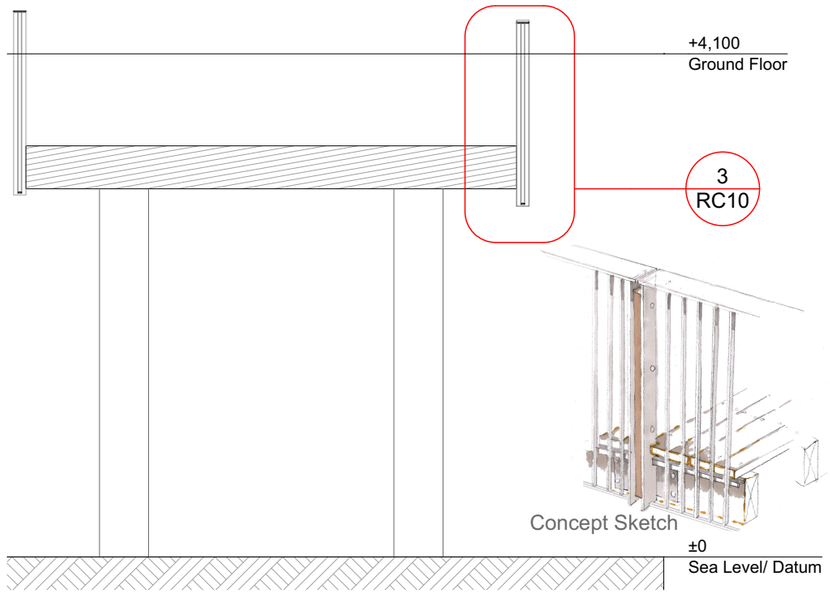
Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

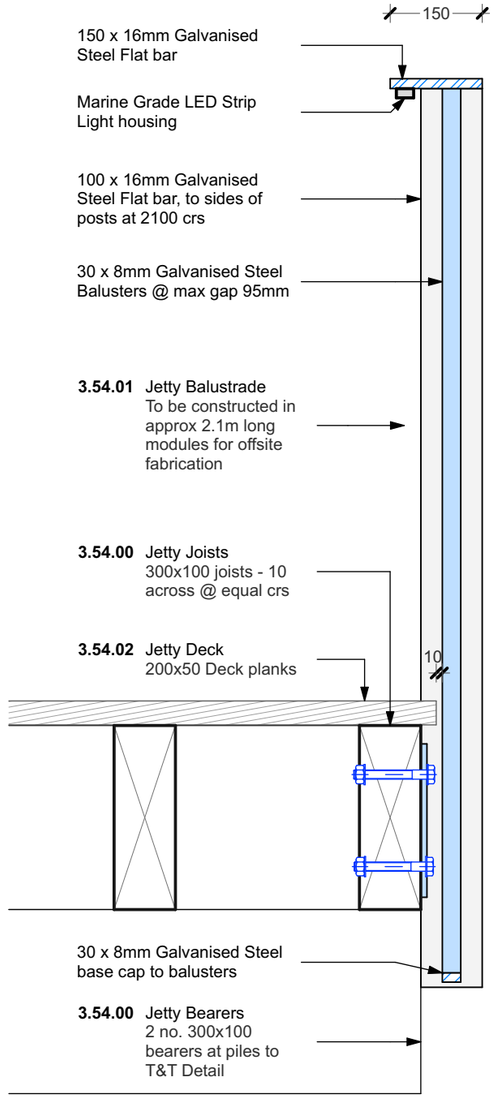
Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point	A		Coastal walkway & bank added to South West Elevation. Soffit lights indicated	14.02.20	Building Elevations II	14/02/20	Resource Consent Application	RC09-A
Project No. 1852							**Page** 9 of 11	**Scale** 1:200 at A3	**Revision Number** A



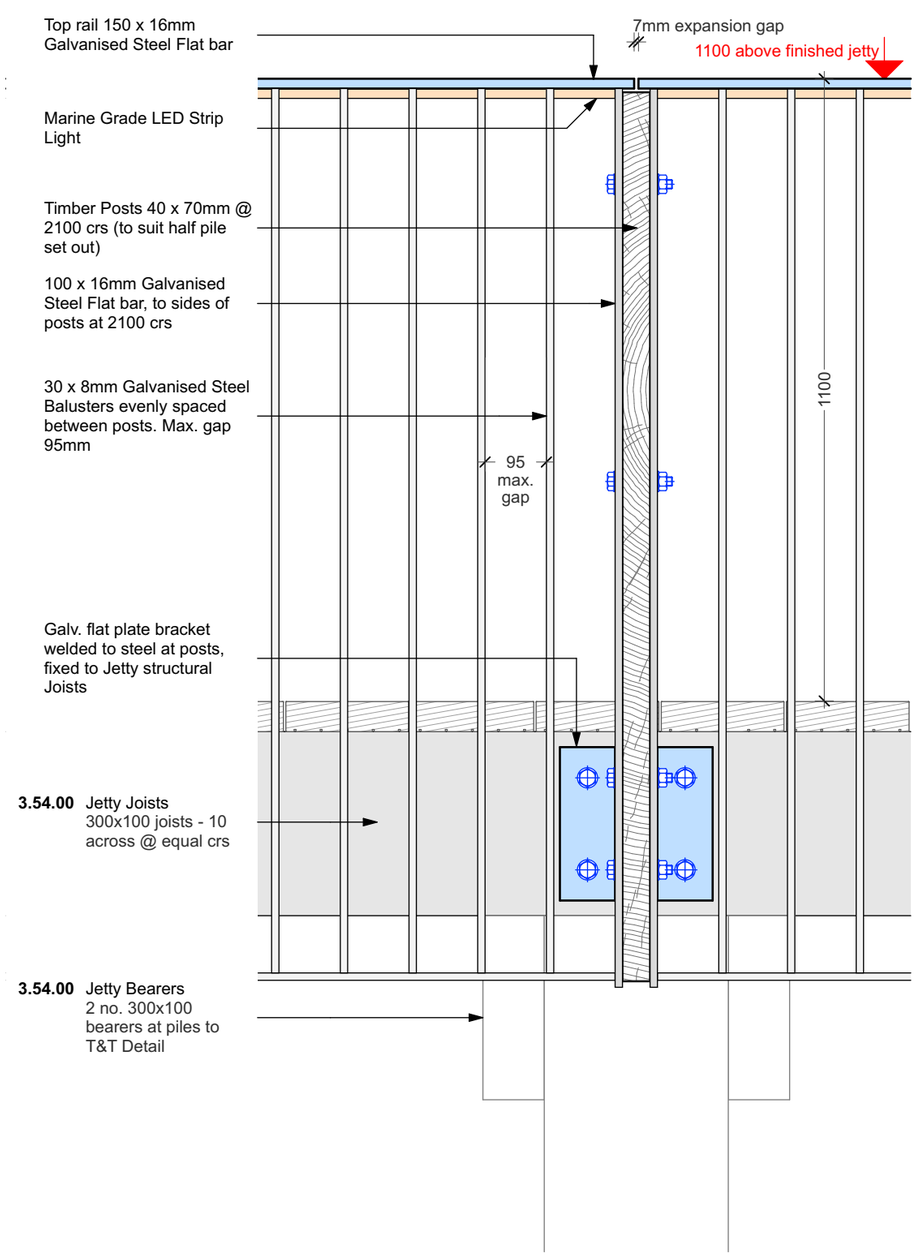
2 Jetty Elevation 1:50



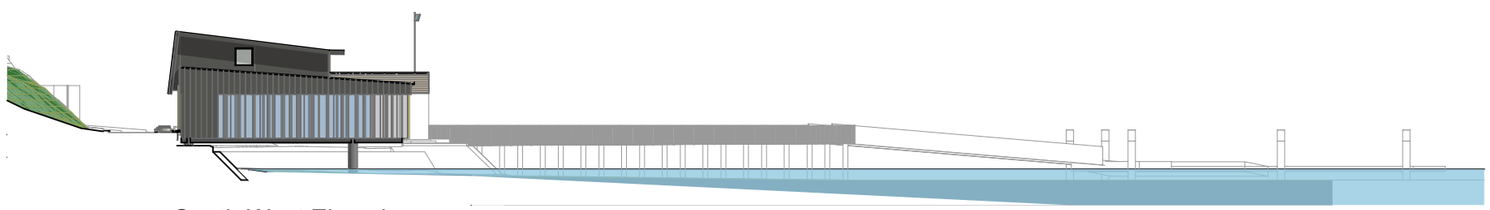
1 Jetty Section 1:50



3 Handrail Section Detail 1:10



4 Handrail Elevation Detail 1:10



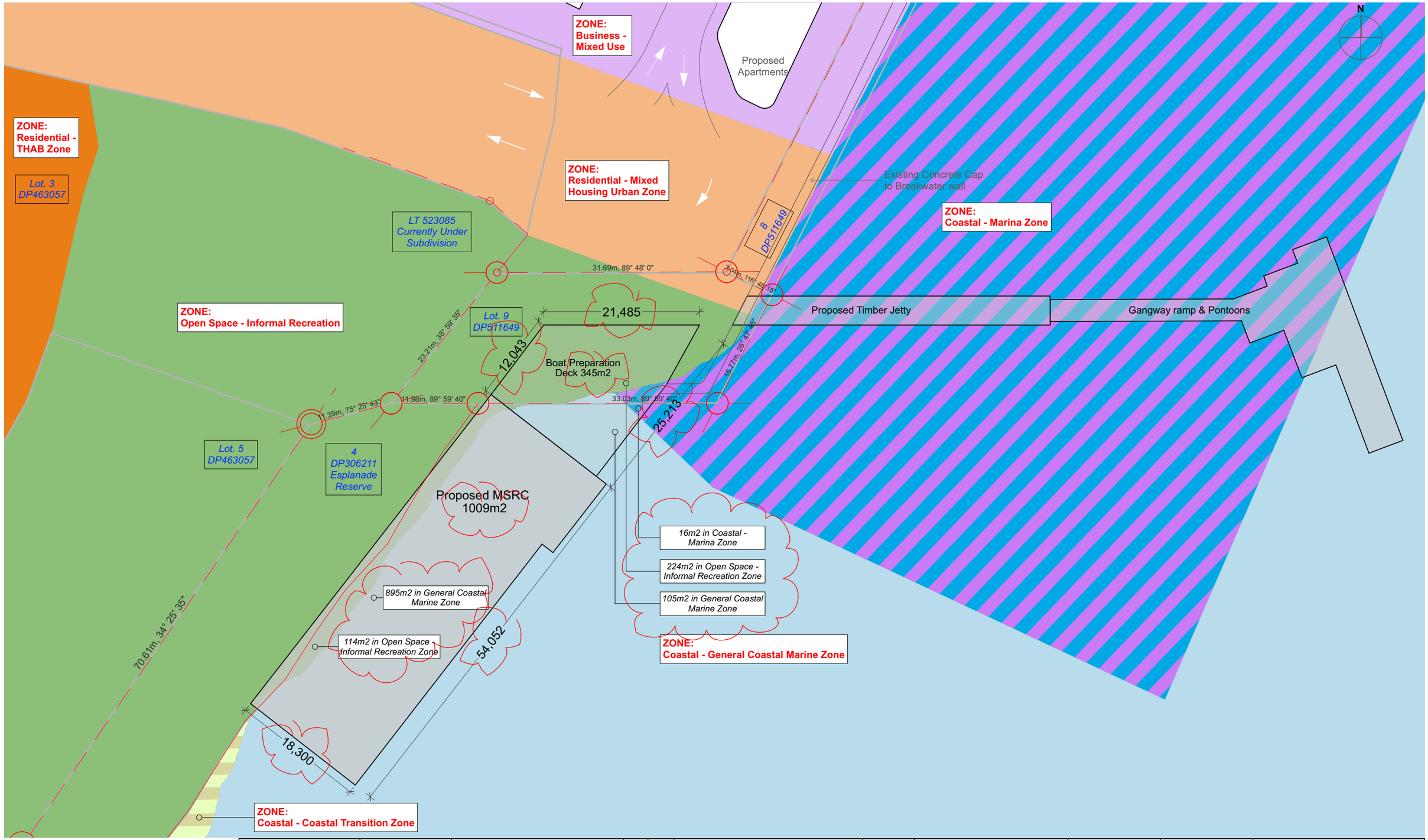
South West Elevation

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point			NOT FOR CONSTRUCTION THIS DESIGN IS SUBJECT TO ENGINEERS REVIEW PONTOON AND GANGWAY BY OTHERS		Jetty	14/02/20	Resource Consent Application	RC10
Project No. 1852							**Page** 10 of 11	**Scale** 1:50, 1:10, 1:500 at A3	**Revision Number**



Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point	A		Areas & Dimensions Added	14.02.20	Site - AUP Zoning Plan	14/02/20	Resource Consent Application	RC11-A
Project No. 1852							**Page** 11 of 11	**Scale** 1:500 at A3	**Revision Number** A

APPENDIX 7
ARCHITECTURE DESIGN REPORT

Strachan Group Architects
—
sgaltd.co.nz

Marine Sports Recreation Centre : Hobsonville Point
—
Design Report for HLC Ltd
19th September 2019

SGA

Marine Sports Recreation Centre

Document compiled by Strachan Group Architects Ltd
Address:
26 Rossmay Terrace
Kingsland 1024
PO Box 26038, Epsom, Auckland 1344

Contact:
Roy Tebbutt
Registered Architect ANZIA, B.Arch
Roy@sgaltd.co.nz
+64 21 769 707
+64 9 638 6302 — Ext. 13

Document prepared for HLC

SGA

CONTENTS

Context

The site is on the eastern coast of Harrier Point, facing Catalina Bay, at the north eastern edge of Hobsonville Point. Catalina Bay sits in a prime location along the western shore of the upper Waitemata Harbour.

The flat narrow coastal platform at the foot of the escarpment was formed as a result of the modification to the landform from 1950, in order to establish Boundary Road. The seaward edge of the roadside is vegetated with manuka, kanuka shrubland and flax. Boundary Road is now known as Te Ara Manawa - Hobsonville / Onekiritea Coastal Walkway. This portion of the waterfont is part of a significant pedestrian and cycle route which forms part of the experience of Hobsonville Point for the public. Launch Road forms the site's northern land-based boundary, which also provides access to The Landing sub-precinct / Catalina Bay development - a vibrant and growing area of public spaces, transit interchanges, a mixture of hospitality and commerce, as well as significant residential developments.

The site has sweeping views over the tidal waters of the upper Waitemata Harbour and across Catalina Bay, towards the bush lined coast of Beach Haven. This location is ideal for marine based activities like sailing and rowing.

Te Ara Manawa - Hobsonville / Onekiritea Coastal Walkway

Fabric Cafe & Bistro

Catalina Workshops

The Armoury: Farmers Market

GRP Building

Sunderland Hangar: Cafes, Restaurants & Offices

Harrier Point Park

Te Ara Manawa - Hobsonville / Onekiritea Coastal Walkway

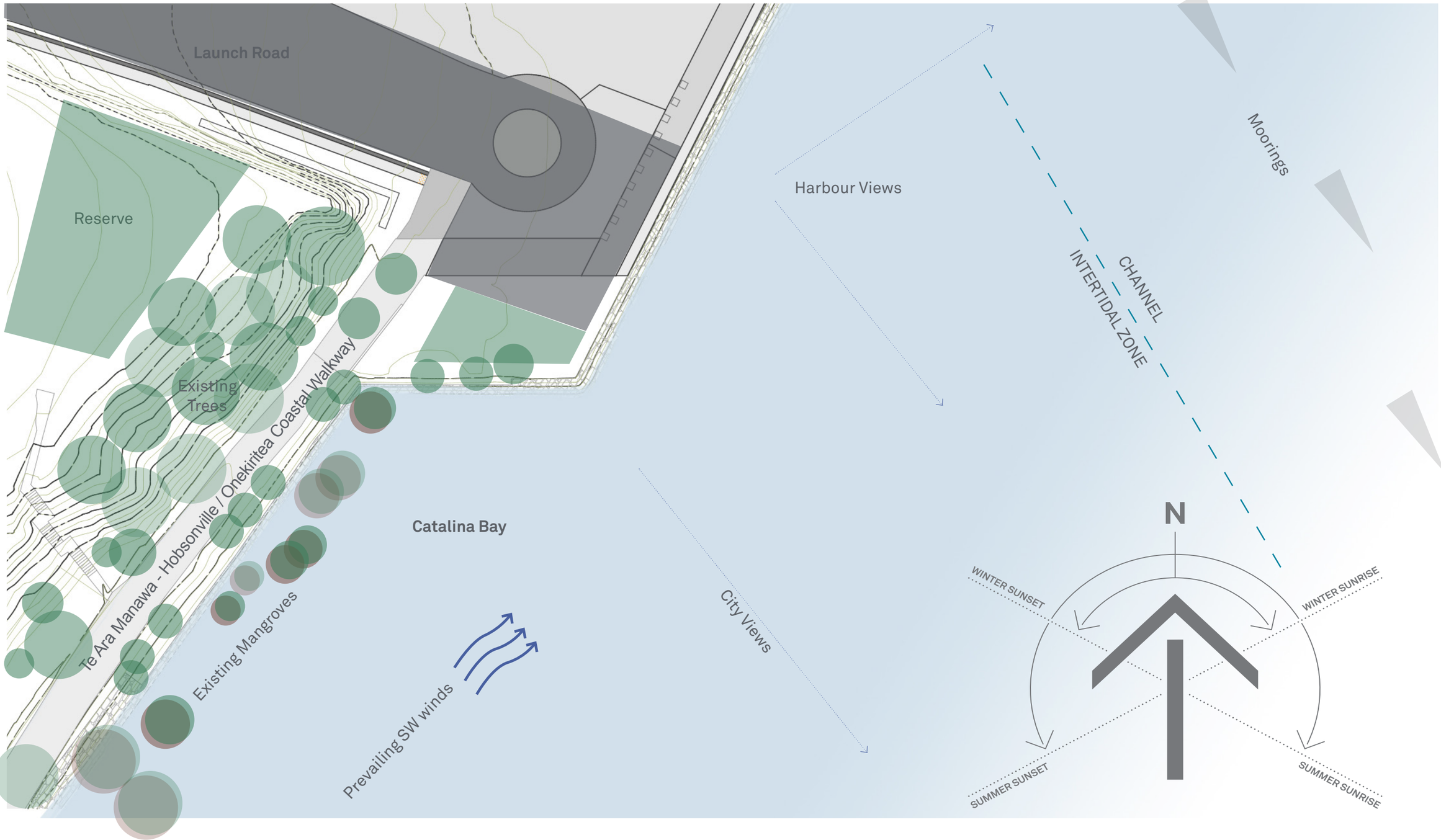
Sea Plane Ramp

Proposed Apartments

Proposed Yacht Club Apartments

Proposed Jetty

Proposed Marine Recreation Centre



SGA

Site Context
Existing Site Plan - Environmental Analysis

Launch Road and Coastal Walkway entry

Coastal Walkway (formerly Boundary Road) looking North East across site

Mangroves South of site

Coastal Walkway (formerly Boundary Road) with site immediately on left

Rock sea wall at edge of site

SGA

View of site and surrounds from Beach Haven

Coastal Walkway Public seating areas near Ferry Terminal

Former sea plane ramp North West of site

Hobsonville Point Ferry Terminal pier

Site History

Catalina Bay has a strong military history, and has been long associated with watercraft and flying boats. In 1929 Catalina Bay became the base for the Royal New Zealand Air Force amphibious craft, including the Short Sunderland flying boat. A number of hangars and associated building structures were constructed to accommodate the craft, many of which remain today. From 1967 amphibious craft and flying boats were phased out and were replaced by helicopters. In 2002 Hobsonville Point was closed as a military base as the government moved to free the land for housing development.

Yachting & Rowing

Hobsonville Boating Club (HBC) was formed in 1934. With the arrival of the military, HBC was retitled RNZAF Base Auckland Yacht Club. When the military left Hobsonville Point, the club became known as the Hobsonville Yacht Club (HYC). HYC still occupy club rooms and associated storage sheds at the eastern most point of Catalina Bay.

Westlake Boys High School Rowing (WBR) has had a storage facility at Catalina Bay since 1996, rowing on the sheltered upper reaches of the Waitemata. In 2012 WBR was joined by Rowing New Zealand's Auckland Regional Performance Centre, for the development of rowers who demonstrate the potential to represent New Zealand at world championships and the Olympic games.

Both groups currently launch watercraft from the existing concrete sea plane ramp (this is slowly deteriorating so not a long term option).

Development

In 2016 the development of a new mixed-use precinct in the area known as Catalina Bay began. The development comprises a mix of retail, commercial offices, hospitality and residential. The first phase began with the refurbishment of a number of the historical sea plane hangars and buildings including the Sunderland Hangar, the Catalina Workshops, the Armoury, the 'GRP' Building and Fabric Bay. The next phase of development involves constructing 2 new apartment buildings, which will displace HYC and WBR from their current locations.

The Hobsonville Point Marine Sports Recreation Centre Charitable Trust was formed to work towards the realisation of a new facility to become the home of water sports for the greater Hobsonville Point area.

Existing Hobsonville Yacht Club

Proposed site - looking North from Catalina Bay

Brief

SGA were engaged by HLC in 2018 to provide Architectural services for the project.

The brief required that the various user groups needs would be considered, such as setting up sailing rigs, manoeuvring and launching rowing skiffs up to 20 meters long, with access to the harbour in all tides.

Beyond the key stakeholders HYC and WBR, there was to be provision for user groups associated with the training ship Bellona, and the Sea Cadet Corps (Sea Cadets) as well areas for community meeting spaces and administration offices.

Other important factors included taking input from local Iwi on the siting and design, to create and enhance the public space surrounding the building, for a structure that was resilient with low maintenance in the coastal setting, and was accessible to all users.

Design Statement

HLC had a vision for a new coastal pavilion that engages with the site and its users, provides a multi-use venue for the public, and one that builds upon the strong history of the Rowing and Sailing clubs with a world class marine sports centre.

The Marine Sports Recreation Centre (MSRC) has been conceived of as an 'elegant shed' which is nestled into the land at Harrier Point. Key drivers for the design were to enhance the public space as a waypoint along the coastal walkway, and to ensure minimal impact was made on the sea bed.

The brief required a rowing and yachting storage shed which also housed club facilities on the upper floor. The Hobsonville Point Marine Sports Recreation Centre Charitable Trust, comprising representatives from the Westlake Boys Rowing and Hobsonville Boating Clubs were consulted to ensure that the building met the requirements of its users. Elements such as the large boat preparation area, extensive storage and generous viewing deck will ensure operations run smoothly with daily use of the building.

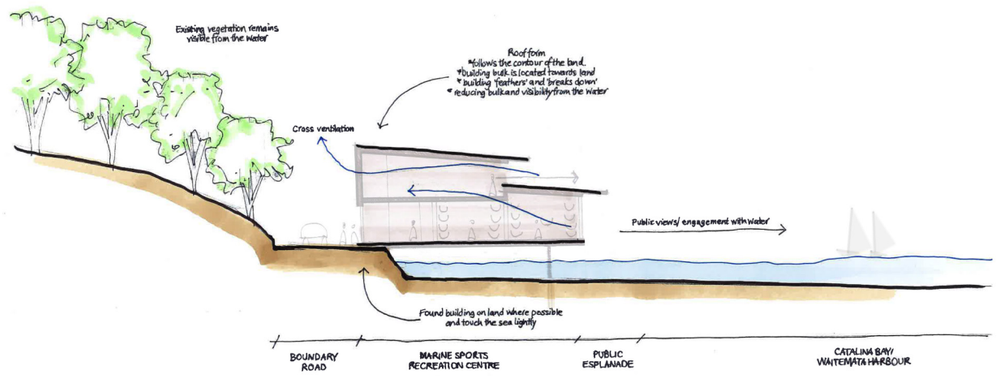
Priority has been given to the enhancement of Te Ara Manawa - Hobsonville / Onekiritea Coastal Walkway. The building has been positioned following the contour of the water's edge, and marks the entrance to the walkway's southern path. By aligning the new pier and jetty with the walkway, the public are given equal priority to its use. Provision has been made to allow the public to engage with the site both during the buildings operation as well as after hours with public spaces and street furniture located about the site. Further to this, the boat preparation area can be utilised as a public space for a variety of events outside of club operation hours. A clearly defined entry, separated from the rowing storage and rigging area, enables secondary use as a community space on the first floor.

Design consultations were also undertaken with Iwi representatives from Ngāti Whātua o Kaipara and Te Kawerau ā Maki. Key areas of interest were the ecological and archaeological situation of the site and the implications of the building on the sea bed, particularly the foundations. Provisions were made to minimize the number and size of the foundation piles, and these were set back to allow the floor to cantilever over the water. The resulting building appears to float above the water with minimal impact on the sea bed.

All parties concerned expressed a hope that the new building wouldn't stand out or look out of place. The design approach was thus to create a building which was recessive and not dominant on the landscape.

The following key design moves reduce the visual impact of this building sited at the water's edge:

- By layering and stepping the building back towards the west, it responds to the high bank and existing vegetation behind.



Early concept sketch section

- The building form climbs away from the ocean, rising in layers with the contours of the landscape.
- The Western façade of the building running parallel to the Te Ara Manawa Hobsonville - Onekiritea Coastal Walkway has been stepped both in plan and section, clad in two materials and filled out with openings to reduce the dominance of this otherwise tall façade, and provide a human scale to the building along this stretch of the walkway.
- A natural, recessive colour palette enables the building to nestle into the landscape, blending in with the nearby trees. Selected cladding materials include the natural Abodo Vulcan pine horizontal rusticated weatherboards, and Abodo pine battens both stained and painted. The roof and upper storey use more timber cladding as well as the subdued 'Ironsand' colorsteel.
- A lighter façade to the seawared edge uses profiled Colorsteel tray profile in the off-white 'Colorsteel Bounce' and polycarbonate translucent sheets, both to reflect the water, while green and yellow accents around the lower storey reference the mangroves along the nearby foreshore.

These materials have been selected to support sustainability whilst ensuring the longevity and functionality of the building in this coastal environment.

Refer to the materials sheet for visual examples of materiality and colour palette.

Address
Boundary Road, Hobsonville 0618

Legal lot names:
4 DP306211 Esplanade Reserve
Lot 9 DP511649

Zones
The Proposed Marine Recreation Centre sits between land and sea, therefore crosses zones:

- Coastal - Marina Zone
- Coastal - General Coastal Marine Zone
- Open Space - Informal Recreation Zone
- Residential - Mixed Housing Urban Zone

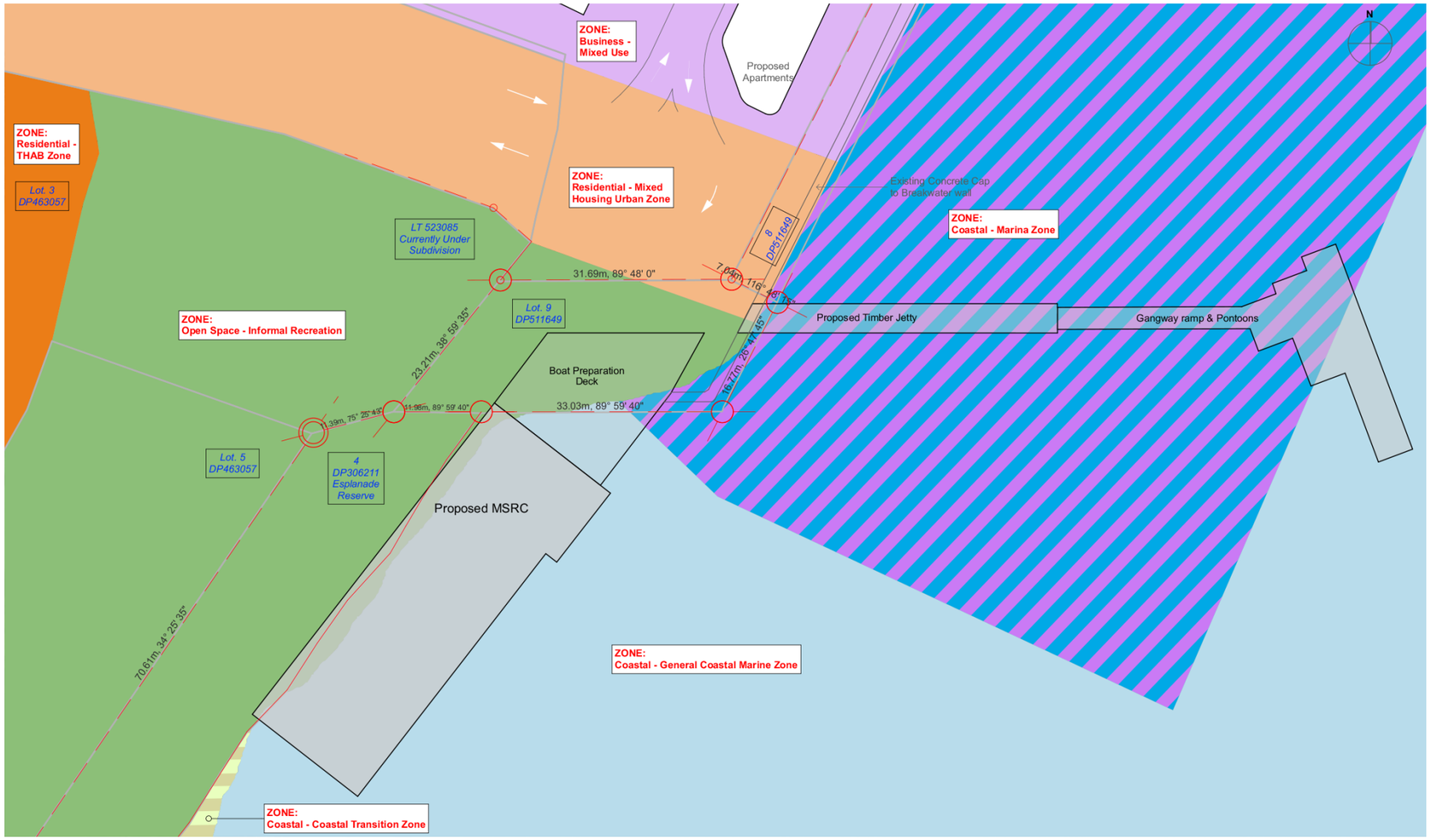
It is also close to the Zone

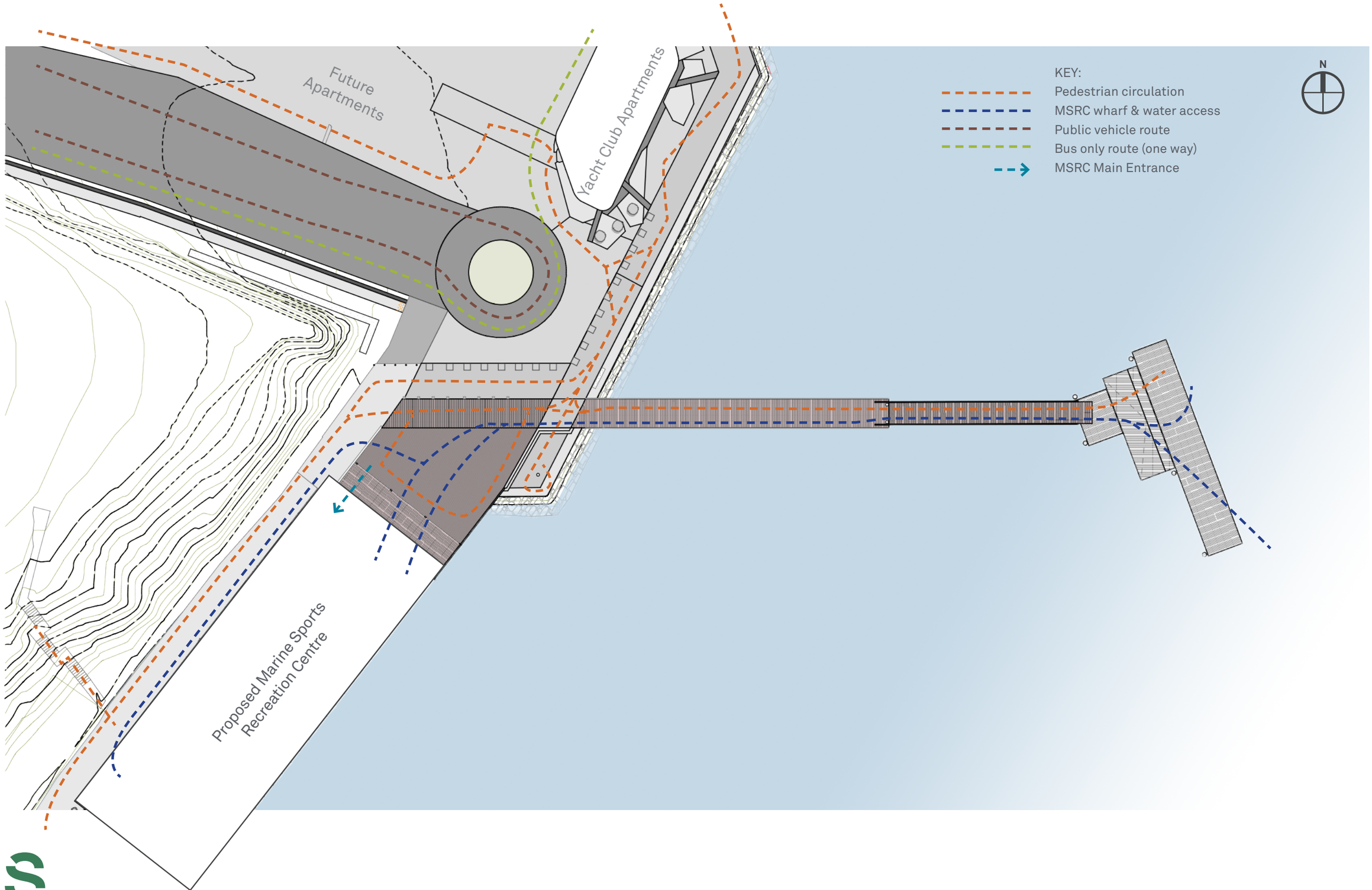
- Coastal - Coastal Transition Zone

Precinct
Hobsonville Point sub-precinct C, Sub-precinct
Hobsonville Point sub-precinct D, Sub-precinct

Controls
Controls - Inundation 1 per cent AEP Plus 1m Control-1m sea level rise
Controls - Macroinvertebrate Community Index - Native
Controls - Macroinvertebrate Community Index - Urban
Controls - Stormwater Management Area Control - West Harbour, Flow 1

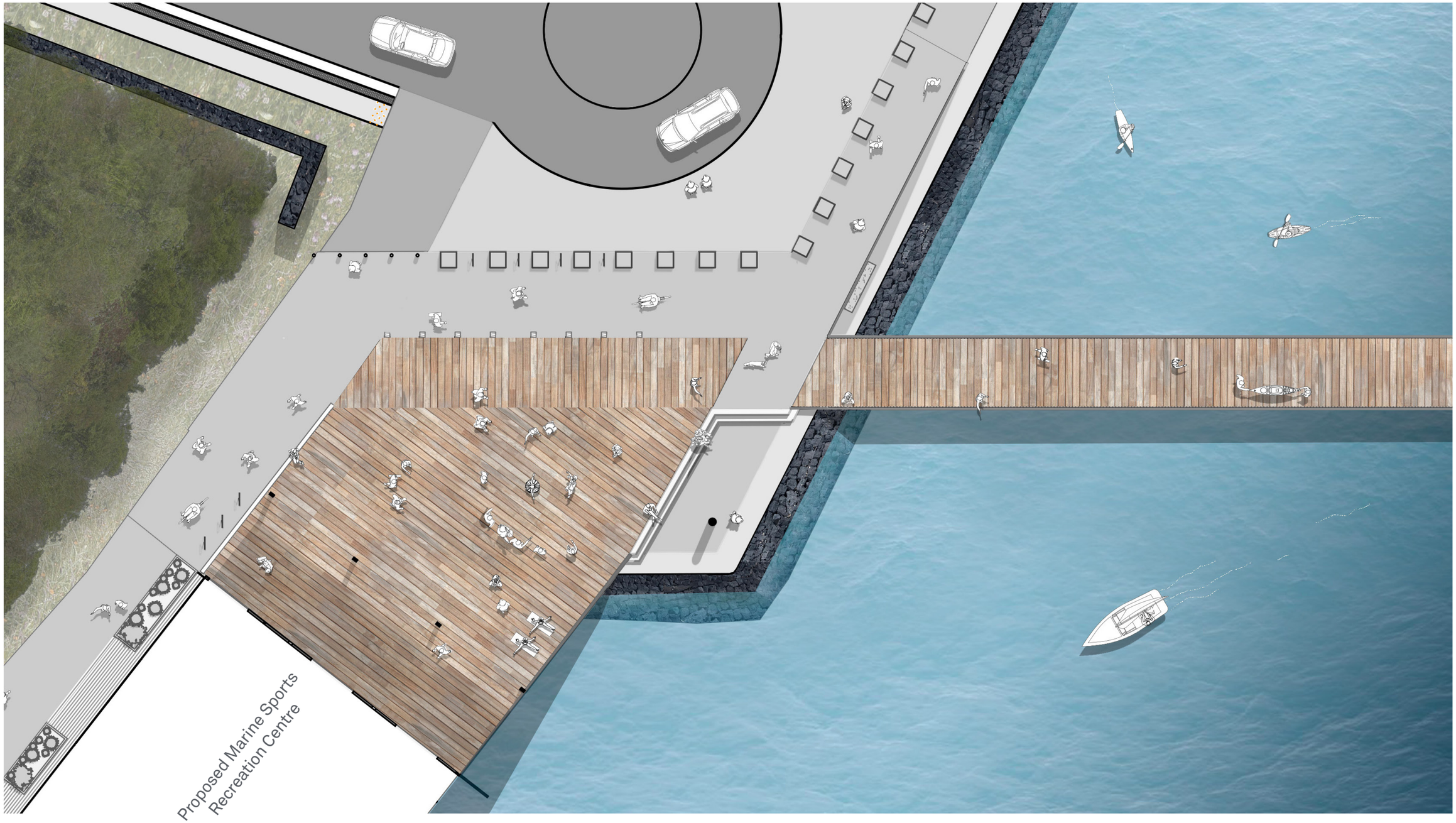
Overlays
Natural Resources - High-Use Aquifer Management Areas Overlay - Kumeu Waitemata Aquifer

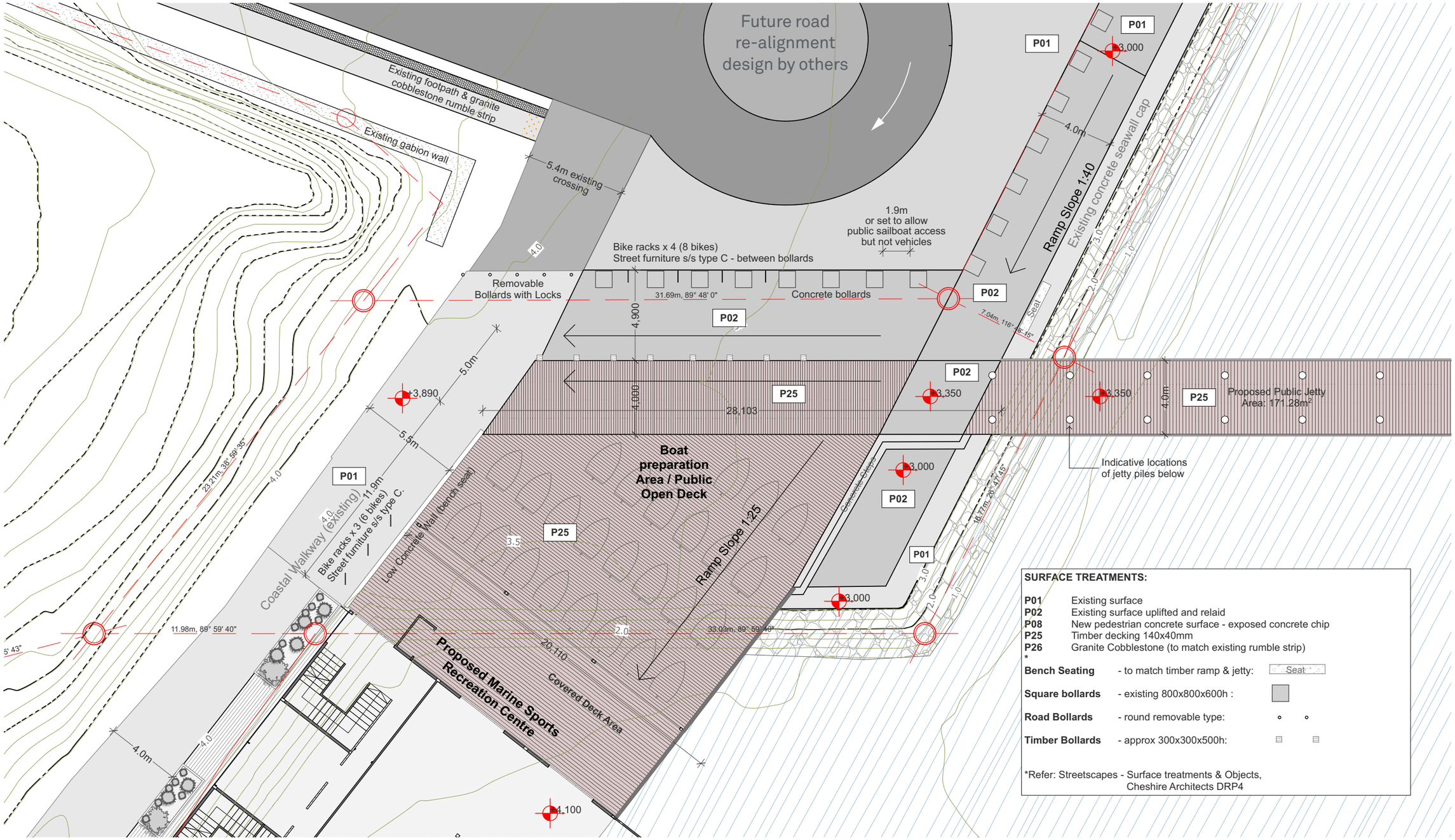




SGA

Site Plan
Circulation, Transport and Public Connections 1:500


Proposed Marine Sports
Recreation Centre



SURFACE TREATMENTS:

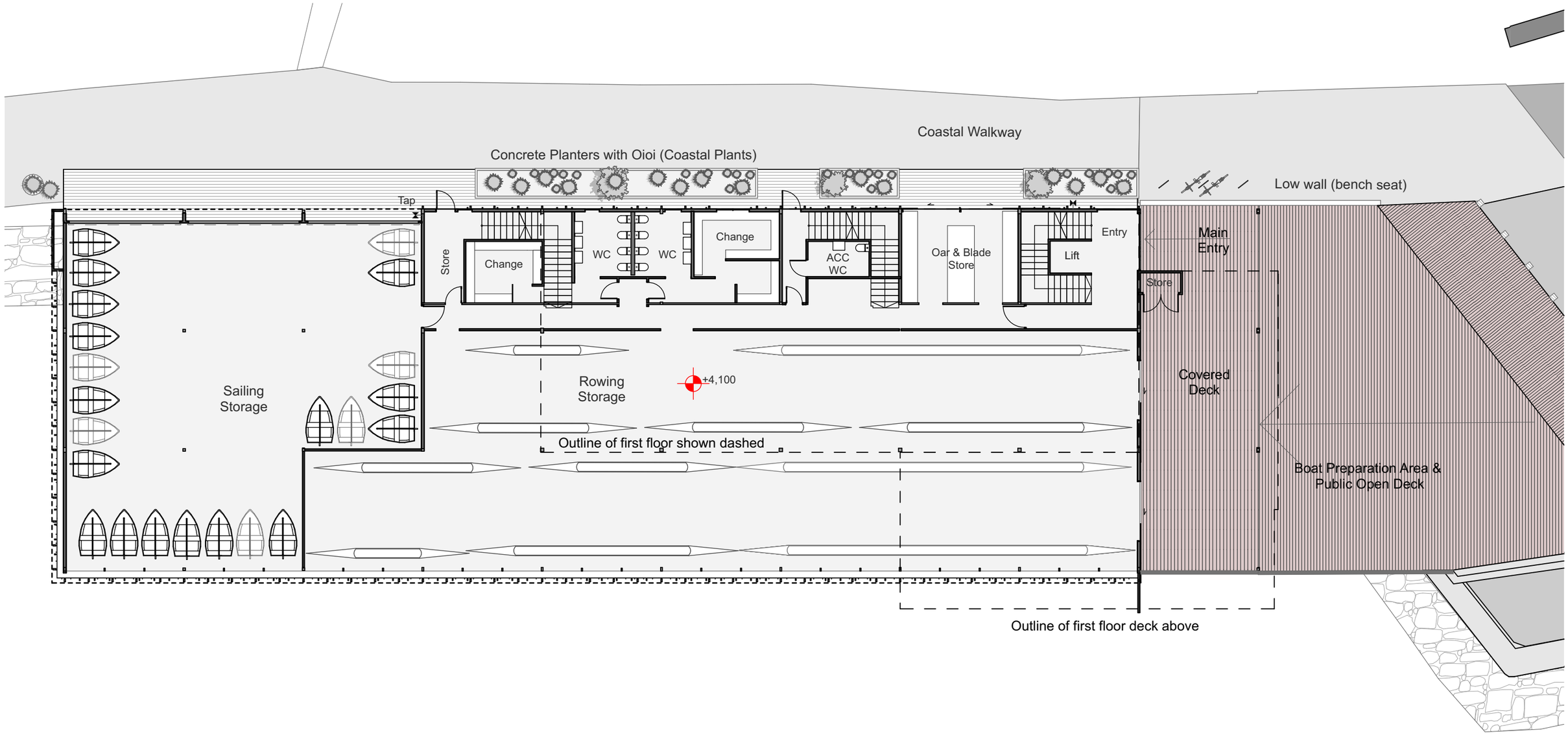
P01	Existing surface
P02	Existing surface uplifted and relaid
P08	New pedestrian concrete surface - exposed concrete chip
P25	Timber decking 140x40mm
P26	Granite Cobblestone (to match existing rumble strip)
*	
Bench Seating	- to match timber ramp & jetty: Seat
Square bollards	- existing 800x800x600h :
Road Bollards	- round removable type:
Timber Bollards	- approx 300x300x500h:

*Refer: Streetscapes - Surface treatments & Objects, Cheshire Architects DRP4

2 5 10

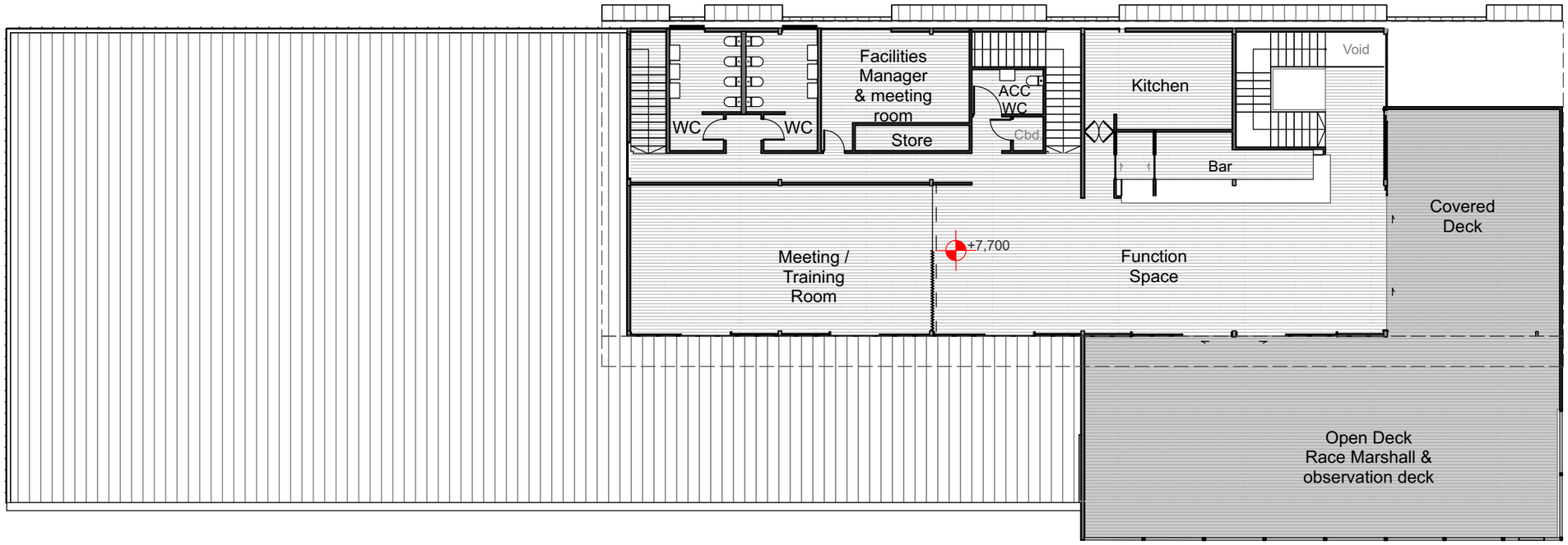
Landscape Plan

Surface treatments at Site Entrance & Jetty 1:200



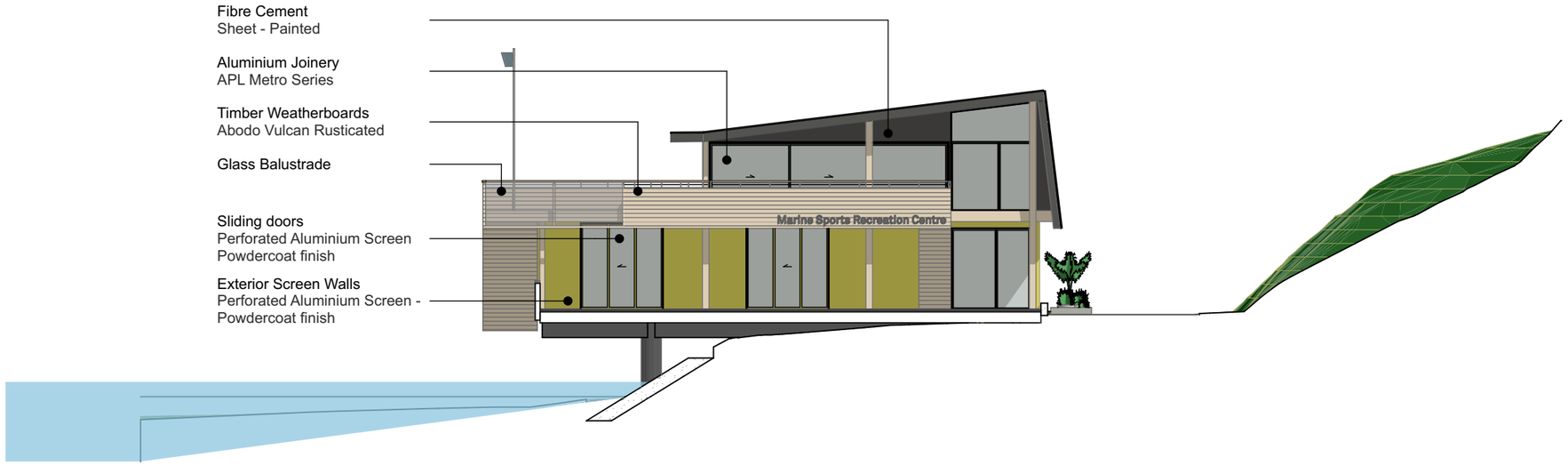
2 5 10

Marine Sports Recreation Centre
Ground Floor 1:200

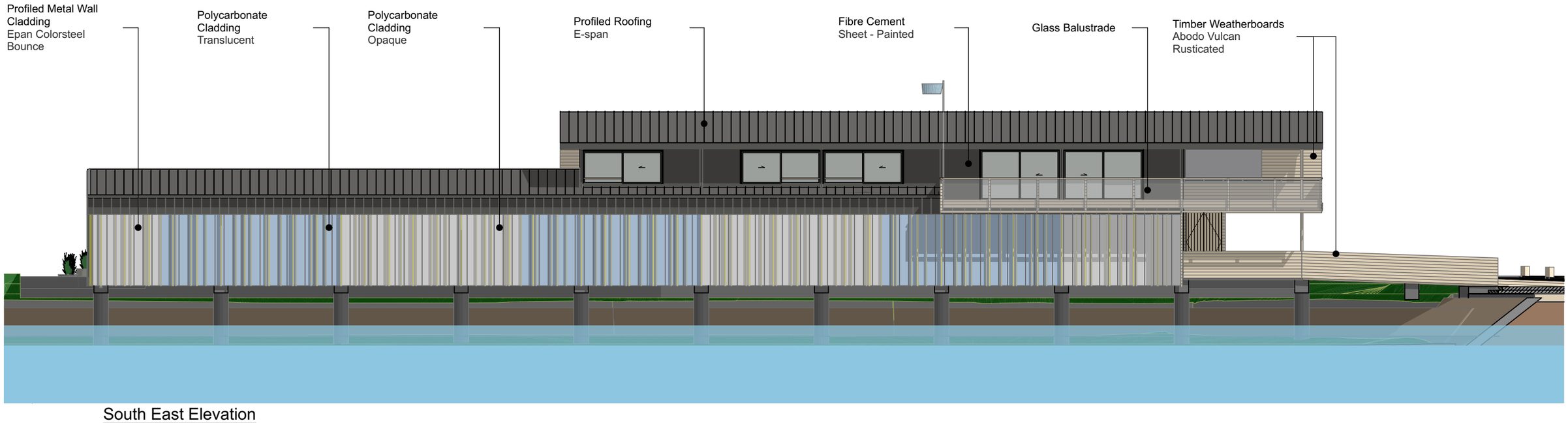


2 5 10

Marine Sports Recreation Centre
Upper Floor Plan 1:200



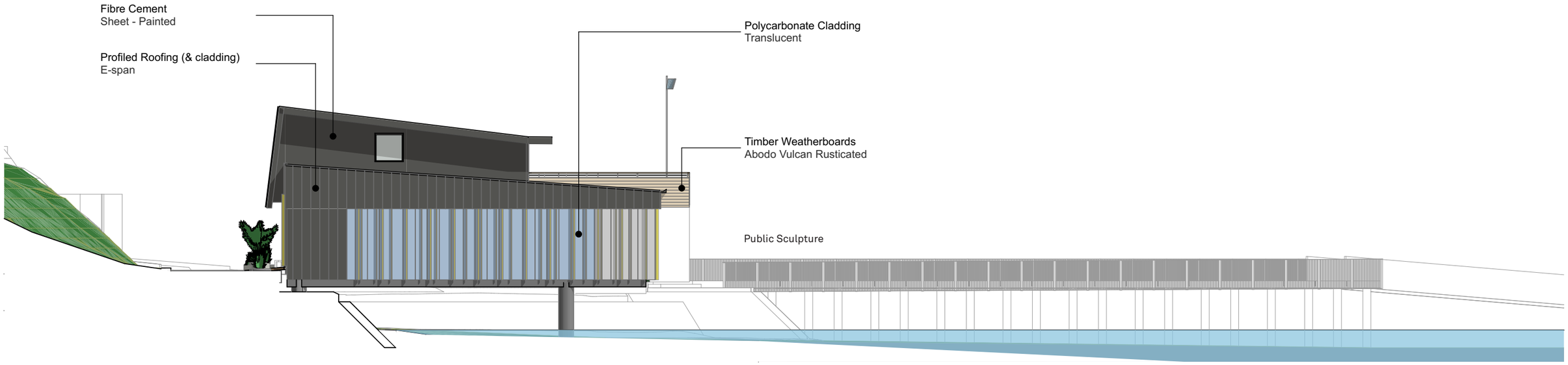
North East Elevation



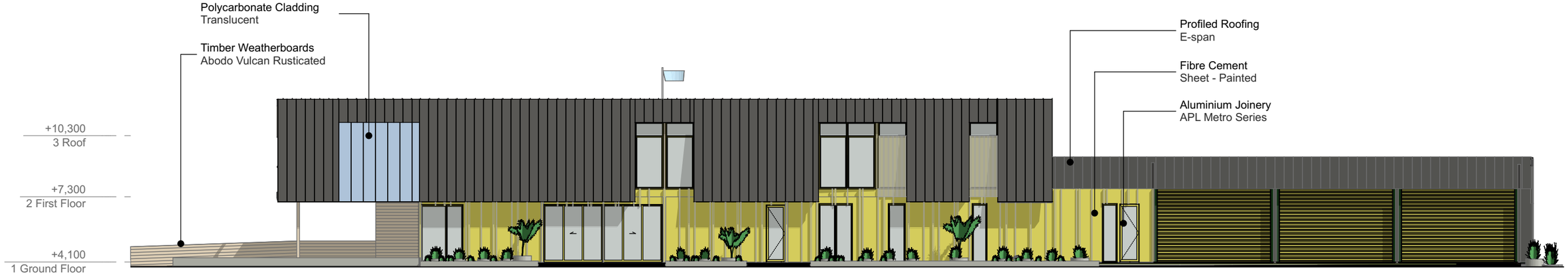
South East Elevation

2 5 10

Marine Sports Recreation Centre
Elevations 1:200



South West Elevation



North West Elevation

SGA

2 5 10

Marine Sports Recreation Centre
Elevations 1:200


Marine Sports Recreation Centre
Launch Rd
Private Rd

SGA

Marine Sports Recreation Centre
View from channel looking west

SGA

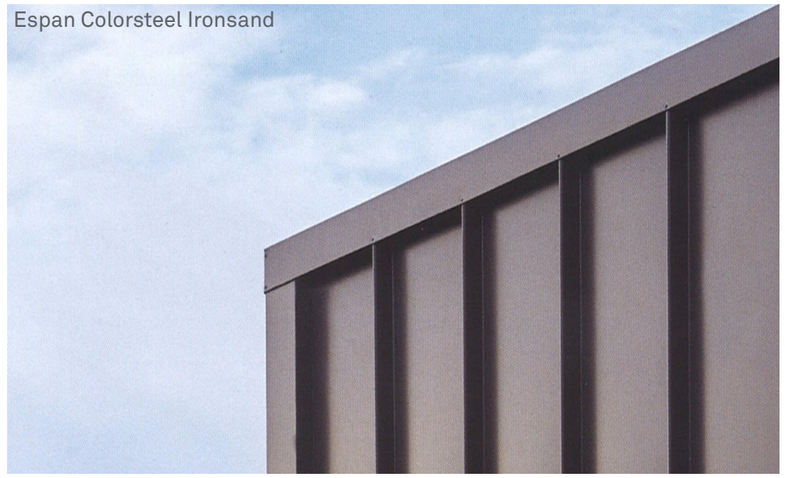
Marine Sports Recreation Centre
View from Upper Level Deck looking east

Material Selections

The materials and colour palette were selected with consideration for a local aesthetic, coming together to create a pavilion that recedes unobtrusively in this unique harbour setting.
With levels of salt spray and wind exposure being high, all elements have been selected for their durability and low maintenance requirements.


Abodo Vulcan Weatherboard


Polycarbonate Sheet
Espan Colorsteel Bounce


Espan Colorsteel Ironsand


Abodo Vulcan screening with selected Resene colours;
Karma | Highball | Kombi | Citron


Coastal Walkway Balustrade

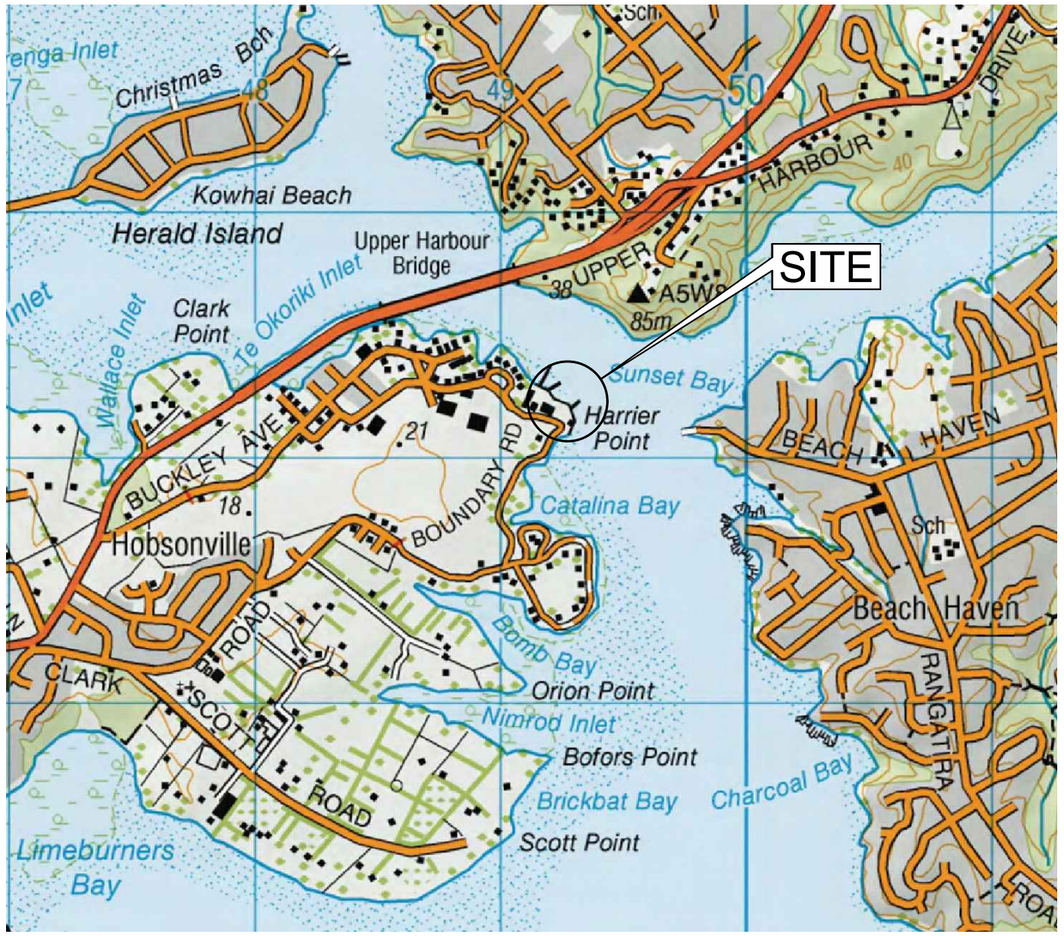
APPENDIX 8
JETTY DRAWINGS

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-00.dwg 2019-Oct-25 9:11:25 AM Plotted By: TREVOR JONES

HLC
MARINE RECREATIONAL FACILITY - CATALINA BAY

RESOURCE CONSENT

DRAWING	Rev	Title
• 1006452-RC00	1	DRAWING LIST & LOCATION PLAN
• 1006452-RC01	1	EXISTING LAYOUT
• 1006452-RC02	1	PROPOSED JETTY AND PONTOON
• 1006452-RC03	1	DREDGING PLAN
• 1006452-RC04	1	TYPICAL SECTIONS



TOPOMAP SOURCED FROM LINZ DATA SERVICE <HTTPS://DATA.LINZ.GOVT.NZ/LAYER/50767-NZ-TOPO50-MAPS/>, LICENSED BY LINZ FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0). ACCESSED 10/10/2018.

LOCATION PLAN
SCALE 1:25,000

• Denotes drawing this issue: 6/08/2019

A3 SCALE 1:25000
0 0.5 1.0 1.5 (km)

ORIGINAL IN COLOUR

Tonkin+Taylor
Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19

DESIGNED	AMSH	Jun.19
DRAWN	TJ	Jun.19
DESIGN CHECKED	GWP	10/19
DRAWING CHECKED	RBS	10/19

DRAWING STATUS: RESOURCE CONSENT

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

APPROVED DATE

CLIENT HLC
PROJECT MARINE RECREATIONAL FACILITY- CATALINA BAY
TITLE WATER ACCESS LOCATION
DRAWING LIST & LOCATION PLAN
SCALE (A3) 1:25,000 DWG No. 1006452-RC00 REV 1

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-01.dwg 2019-Oct-25 9:11:33 AM Plotted By: TREVOR JONES

391800 mE
391900 mE
392000 mE
392100 mE
810000 mN
809900 mN

ROWING CLUB BOAT STORAGE

SAILING CLUB & BOAT STORAGE

LAUNCH ROAD

RECREATION RESERVE

CATALINA BAY

WAITEMATA HARBOUR

TIDE BAR

TIDE	AVD-46
HAT	2.11 m
MHWS	1.77 m
MHWN	1.19 m
MSL	0.16 m
MLWN	-0.79 m
MLWS	-1.35 m
LAT	-1.73 m

NOTES:
1. COORDINATE DATUM: NZGD 2000, MT EDEN CIRCUIT.
2. LEVEL DATUM: AUCKLAND VERTICAL DATUM 1946 (MSL), REFERRED TO AS RL.
3. BATHYMETRIC SURVEY PROVIDED BY PORTS OF AUCKLAND (2017).
4. TOPOGRAPHIC SURVEY PROVIDED BY HARRISON GRIERSON (2018).
5. AERIAL PHOTO SOURCED FROM AUCKLAND COUNCIL GIS WEBSITE.

LEGEND

EXISTING CONTOURS (1.0m INTERVALS)

EXISTING CONTOURS (0.5m INTERVALS)

MEAN HIGH WATER SPRINGS (MHWS)

A3 SCALE 1: 1000

0 5 10 15 20 30 40 50 (m)

ORIGINAL IN COLOUR

Tonkin+Taylor

Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19

DESIGNED	AMSH	Jun.19	DRAWING STATUS: RESOURCE CONSENT
DRAWN	TJ	Jun.19	
DESIGN CHECKED	GWP	10/19	
DRAWING CHECKED	RBS	10/19	

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

APPROVED DATE

CLIENT **HLC**

PROJECT **MARINE RECREATIONAL FACILITY - CATALINA BAY**

TITLE WATER ACCESS LOCATION
EXISTING LAYOUT

SCALE (A3) 1:1000 DWG No. 1006452-RC01 REV 1

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-02.dwg 2019-Oct-25 9:36:59 AM Plotted By: TREVOR JONES

DREDGE VOLUME	6100 m^3
JETTY AREA	168 m^2

TIDE BAR

TIDE	AVD-46
HAT	2.11 m
MHWS	1.77 m
MHWN	1.19 m
MSL	0.16 m
MLWN	-0.79 m
MLWS	-1.35 m
LAT	-1.73 m

NOTES:
1. COORDINATE DATUM: NZGD 2000, MT EDEN CIRCUIT.
2. LEVEL DATUM: AUCKLAND VERTICAL DATUM 1946 (MSL), REFERRED TO AS RL.
3. BATHYMETRIC SURVEY PROVIDED BY PORTS OF AUCKLAND (2017).
4. TOPOGRAPHIC SURVEY PROVIDED BY HARRISON GRIERSON (2018).
5. AERIAL PHOTO SOURCED FROM AUCKLAND COUNCIL GIS WEBSITE.
6. DREDGE LEVEL CONSIDERS 0.2m ADDITIONAL DEPTH TO CONSIDER 30 YEARS BEFORE MAINTENANCE DREDGING REQUIRED.

LEGEND
- EXISTING CONTOURS (1.0m INTERVALS)
- EXISTING CONTOURS (0.5m INTERVALS)
- MEAN HIGH WATER SPRINGS
- WALKWAY (BY OTHERS)
- PREVIOUSLY CONSENTED DREDGE AREA FROM BECA DRG 3121410-C-120 REV B DATED APRIL 2009 UNDER PERMIT 37469 AND 37470

A3 SCALE 1: 1000
0 5 10 15 20 30 40 50 (m)

ORIGINAL IN COLOUR

Tonkin+Taylor
Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19

DESIGNED	AMSH	Jun.19
DRAWN	TJ	Jun.19
DESIGN CHECKED	GWP	10/19
DRAWING CHECKED	RBS	10/19

DRAWING STATUS: RESOURCE CONSENT

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

APPROVED DATE

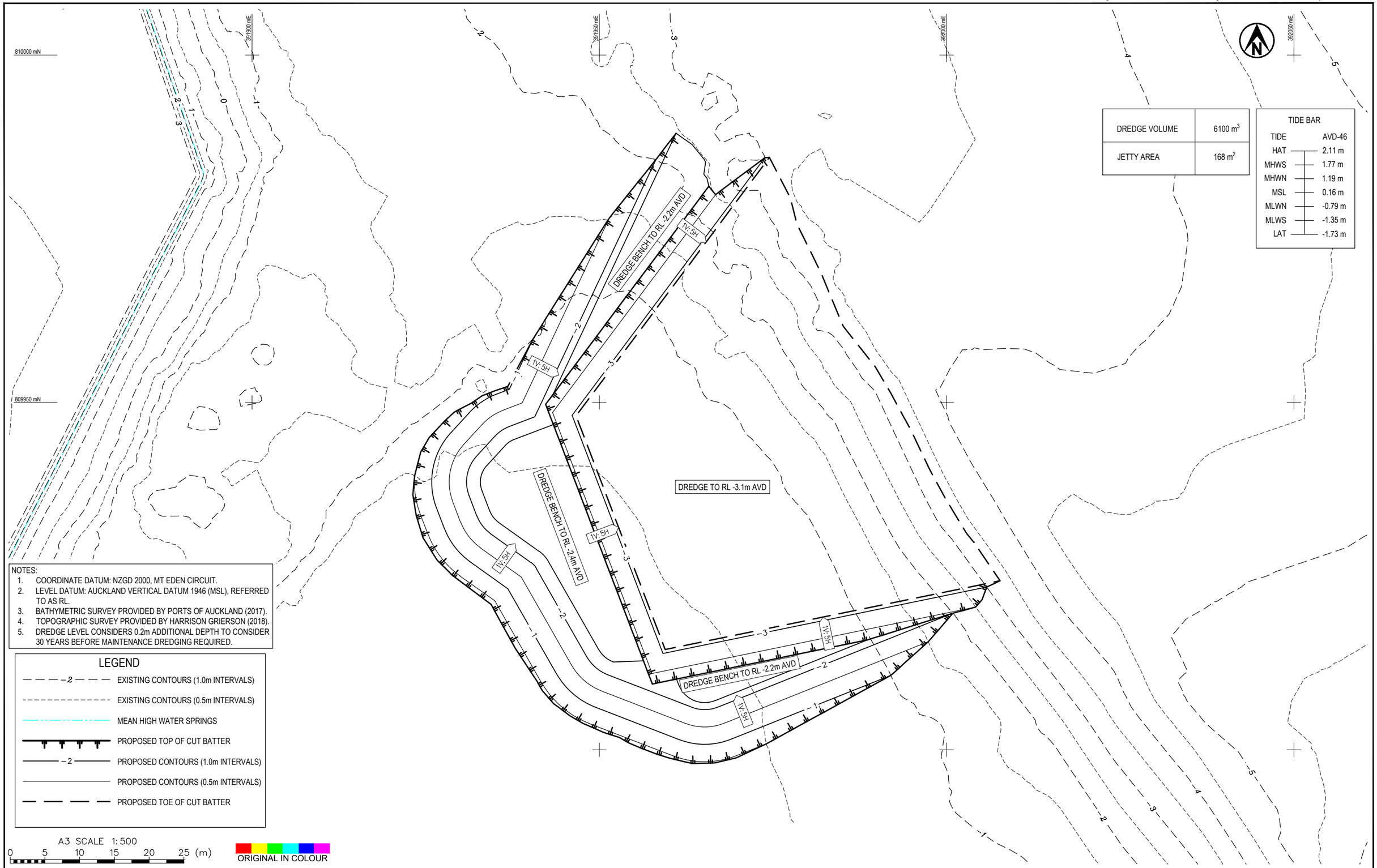
CLIENT HLC

PROJECT MARINE RECREATIONAL FACILITY - CATALINA BAY

TITLE WATER ACCESS LOCATION
PROPOSED JETTY AND PONTOON

SCALE (A3) 1:1000 DWG No. 1006452-RC02 REV 1

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-03.dwg 2019-Oct-25 9:11:46 AM Plotted By: TREVOR JONES



NOTES:
1. COORDINATE DATUM: NZGD 2000, MT EDEN CIRCUIT.
2. LEVEL DATUM: AUCKLAND VERTICAL DATUM 1946 (MSL), REFERRED TO AS RL.
3. BATHYMETRIC SURVEY PROVIDED BY PORTS OF AUCKLAND (2017).
4. TOPOGRAPHIC SURVEY PROVIDED BY HARRISON GRIERSON (2018).
5. DREDGE LEVEL CONSIDERS 0.2m ADDITIONAL DEPTH TO CONSIDER 30 YEARS BEFORE MAINTENANCE DREDGING REQUIRED.

LEGEND
- EXISTING CONTOURS (1.0m INTERVALS)
- EXISTING CONTOURS (0.5m INTERVALS)
- MEAN HIGH WATER SPRINGS
- PROPOSED TOP OF CUT BATTER
- PROPOSED CONTOURS (1.0m INTERVALS)
- PROPOSED CONTOURS (0.5m INTERVALS)
- PROPOSED TOE OF CUT BATTER

A3 SCALE 1:500
0 5 10 15 20 25 (m)

ORIGINAL IN COLOUR

Tonkin+Taylor
Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE	APPROVED	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19		

DESIGNED	AMSH	Jun.19	DRAWING STATUS: RESOURCE CONSENT
DRAWN	TJ	Jun.19	
DESIGN CHECKED	GWP	10/19	
DRAWING CHECKED	RBS	10/19	

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

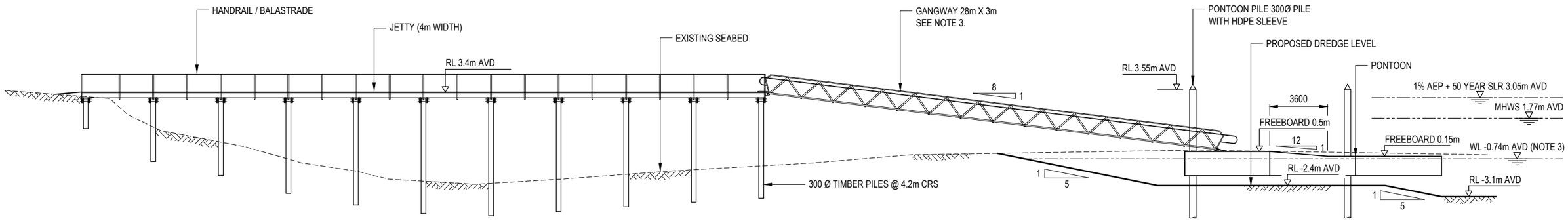
CLIENT **HLC**

PROJECT **MARINE RECREATIONAL FACILITY - CATALINA BAY**

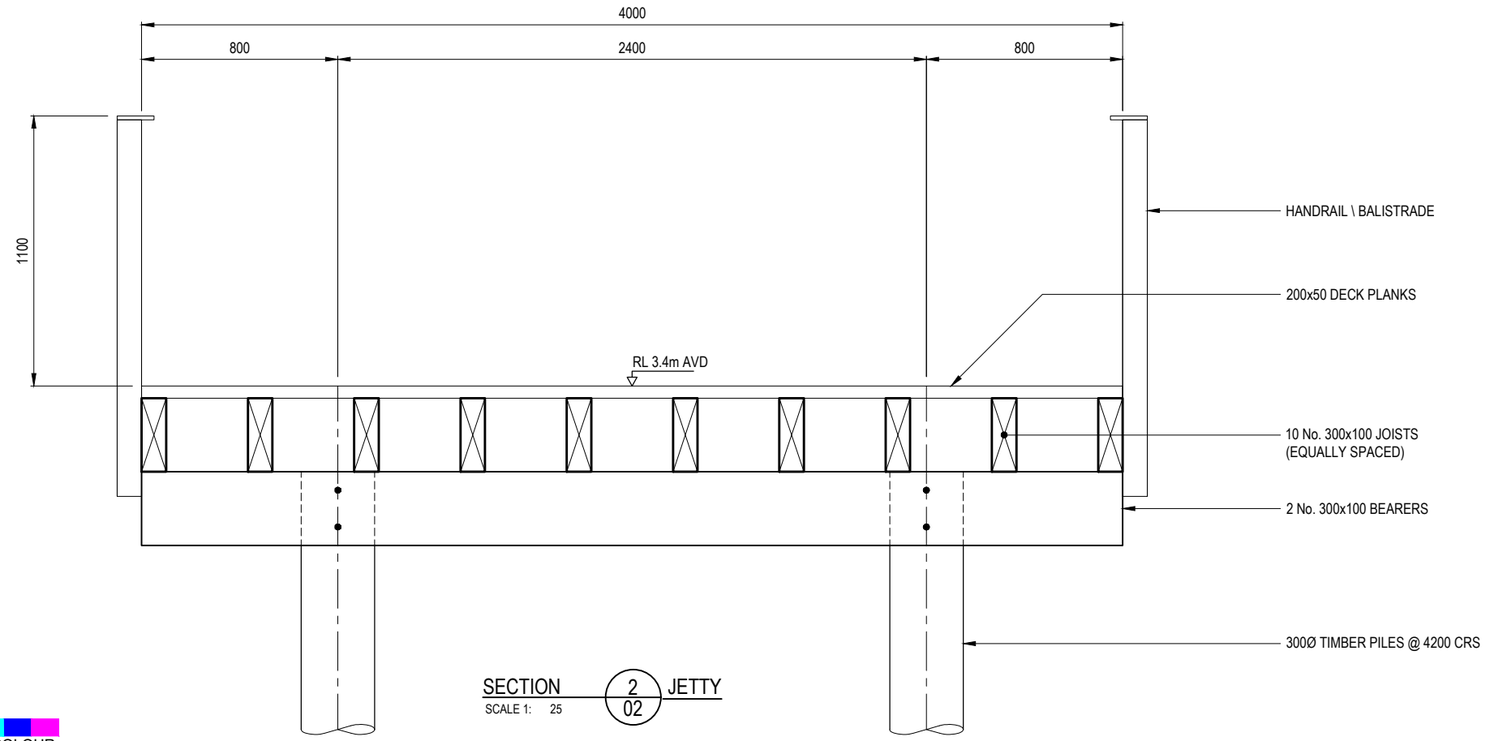
TITLE WATER ACCESS LOCATION DREDGING PLAN

SCALE (A3) 1:500 DWG No. 1006452-RC03 REV 1

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-04.dwg 2019-Oct-25 9:11:50 AM Plotted By: TREVOR JONES



SECTION 1 JETTY
SCALE 1: 250
02



SECTION 2 JETTY
SCALE 1: 25
02

TIDE BAR

TIDE	AVD-46
HAT	2.11 m
MHWS	1.77 m
MHWN	1.19 m
MSL	0.16 m
MLWN	-0.79 m
MLWS	-1.35 m
LAT	-1.73 m

NOTES:
1. LEVEL DATUM: AUCKLAND VERTICAL DATUM 1946 (MSL), REFERRED TO AS RL.
2. DREDGE LEVEL CONSIDERS 0.2m ADDITIONAL DEPTH TO CONSIDER 30 YEARS BEFORE MAINTENANCE DREDGING REQUIRED.
3. GANGWAY TO ACHIEVE 1:8 GRADIENT OR SHALLOWER FOR 80% OF LOW TIDES.

A3 SCALE 1: 250
0 5 10 15 (m)
ORIGINAL IN COLOUR

Tonkin+Taylor
Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19

DESIGNED	AMSH	Jun.19	DRAWING STATUS
DRAWN	TJ	Jun.19	RESOURCE CONSENT
DESIGN CHECKED	GWP	10/19	
DRAWING CHECKED	RBS	10/19	

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

APPROVED DATE

CLIENT **HLC**

PROJECT **MARINE RECREATIONAL FACILITY - CATALINA BAY**

TITLE WATER ACCESS LOCATION
TYPICAL SECTIONS

SCALE (A3) AS SHOWN DWG No. 1006452-RC04 REV 1

APPENDIX 9
ENGINEERING DESIGN REPORT

REPORT

Tonkin+Taylor

Marine Recreation Facility Catalina Bay

Resource Consent Engineering Design Report

Prepared for
HLC
Prepared by
Tonkin & Taylor Ltd
Date
October 2019
Job Number
1006452.v1.0

Exceptional thinking together
www.tonkintaylor.co.nz

Document Control

Title: Marine Recreation Facility Catalina Bay					
Date	Version	Description	Prepared by:	Reviewed by:	Authorised by:
2/8/19	1.0	Draft for comment	AMSH	GWP	GWP
25/10/19	1.0	First issue	AMSH	GWP	GWP

Distribution:

HLC	1 electronic copy
Tonkin & Taylor Ltd (FILE)	1 electronic copy

Table of contents

Executive summary

HLC is a wholly-owned subsidiary of Housing New Zealand Corporation and is currently managing the development of the former Hobsonville Air Force base into a new township. As part of the project Catalina Bay, north-east Hobsonville, is being developed to provide waterfront residential apartments and the ferry connection point to Auckland City.

As part of the development the existing rowing and sailing facilities are to be demolished imminently and relocated to the southern side of Catalina Bay. Aspects of the new facility will also be available for public use as well as the clubs. The new facility will provide a water access jetty and pontoon to launch dinghies and rowing boats, as well as allowing access to yachts to moor and transfer equipment.

An application for a coastal consent had previously been accepted by Auckland Council in 2010 for a number of marine structures/facilities along the Catalina Bay area, consisting of a marina, jetties, a floating breakwater and substantial dredging.

The proposed water access jetty and pontoon design consists of a 42m length timber jetty supported on timber piles, connected to a 28m gangway that goes down onto floating pontoons. There is to be dredging to allow access for keeled yachts, increase usability for rowing boats and dinghies, however this is covered under the existing resource consent from 2010.

An assessment of the coastal effects of the open piled jetty structure and pontoon was undertaken, firstly considering the existing conditions and then the long term effects on the coastal processes and construction effects. It was found that as the jetty is on open spaced piles and the pontoon is a floating structure supported by piles that there would be minimal to no effect on coastal processes. The sediment transport processes should not be interfered with, however localised scour at the piles as a result of current and wave action will likely occur. The scour will be infilled over the following tidal cycles. It is considered the water access

Construction effects as a result of pre-drilling and piling is seabed disturbance that will cause suspended sediment in the water column. The sediment plumes as a results of this activity are considered to have a short term effect to the coastal processes. It is recommended to use silt curtains if drilling/piling in the water. It is considered the construction activities will have a minor short term impact on the coastal processes.

1 Introduction

HLC appointed Tonkin + Taylor (T+T) to provide marine design consultancy services in relation to the Marine Recreation Facility Catalina Bay Project for the water access jetty and pontoon and the coastal assessment of the proposed water access structure and building sub structure.

HLC is a wholly-owned subsidiary of Housing New Zealand Corporation and is currently managing the development of the former Hobsonville Air Force base into a new township. As part of the project Catalina Bay, north-east Hobsonville, is being developed to provide waterfront residential apartments and the ferry connection point to Auckland City.

Currently, the rowing and sailing clubs have existing facilities in Catalina Bay consisting of a covered skiff (rowing boat) area, a sailing boat dry storage yard and club buildings, as indicated approximately in Figure 1. As part of the development the existing rowing and sailing facilities are to be demolished imminently and relocated to the southern side of Catalina Bay. Aspects of the new facility will also be available for public use as well as the clubs.

The new facility is anticipated to consist of an over-water deck structure to support new club buildings, and a jetty and pontoon system to provide all tide access for rowing and sailing vessels. Considerations in the design will need to cater for launching and landing a maximum 8 man 20m long rowing skiff. In addition the yacht club requires facilities for launching and landing of junior sailing dinghies (2.2m long Optermists), a range of larger sailing dinghies, and allow temporary mooring of yachts (maximum length 6.3m) for loading and unloading purposes.

An application for a coastal consent had previously been accepted by Auckland Council in 2010 for a number of marine structures/facilities along the Catalina Bay area, consisting of a marina, jetties, a floating breakwater and substantial dredging.

Figure 1-1 Site location

2 Environmental conditions

2.1 Datum

The following horizontal and vertical datums will be used on the Project:

- Horizontal datum: NZ Geodetic Datum 2000, Mt Eden.
- Vertical datum: Auckland Vertical Datum 1946 MSL.

The vertical datum specified will be referred to as the Reduced Level (RL). The relation between RL and Chart Datum (CD) is as follows:

- 0.00m CD = -1.743m RL.

2.2 Bathymetric survey

Bathymetric survey information, includes:

- Ports of Auckland (POAL) Hobsonville Landing post dredge survey, 16 November 2017.
- LINZ depth contours.
- Port of Auckland survey (including Tamaki Strait), 2017.

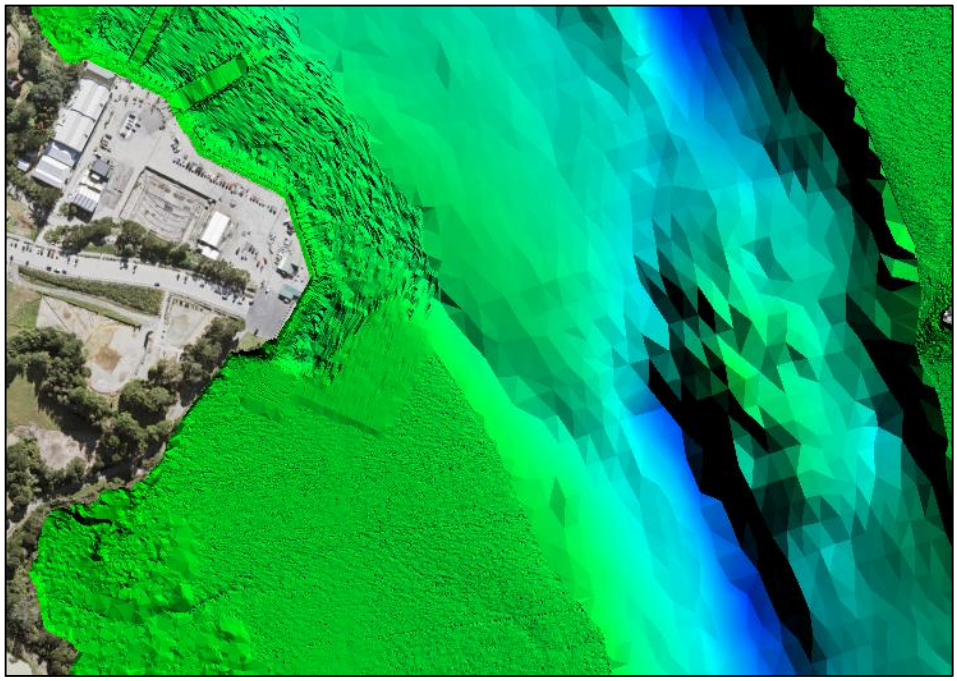


Figure 2-1 Bathymetric survey information for project site

2.3 Topographic survey

A topographic survey was undertaken by Harrison Grierson in April 2018.

2.4 Water levels

2.4.1 Tide level

Standard Port Tidal Levels given by LINZ (2018) are based on the average predicted values over the 18.6 year astronomical tidal cycle. Tidal levels available for the Port of Auckland have been adjusted to estimate the tidal levels at Catalina Bay based on research by Stephens et al. (2012). The estimated tide levels are shown in Table 2-1 presented in Auckland Vertical Datum 1946 (AVD-46), which is set at 1.743m above Chart Datum, and hereafter referred to as the site reduced level (RL).

Table 2-1: Estimated tide levels at Catalina Bay

Tide level		Level (m CD)	Level (m RL)
Highest Astronomic Tide	HAT	3.85	2.11
Mean High Water Spring	MHWS	3.51	1.77
Mean High Water Neaps	MHWN	2.93	1.19
Mean Sea Level	MSL	1.90	0.16
Mean Low Water Neaps	MLWN	0.95	-0.79
Mean Low Water Springs	MLWS	0.39	-1.35
Lowest Astronomic Tide	LAT	0.01	-1.73

2.4.2 Storm tide

Storm surge results from the combination of barometric set-up due to low atmospheric pressure, and wind stress from winds blowing along or onshore which elevates the water level above the predicted tide. The combined elevation of the predicted tide and storm surge is known as the storm-tide. Stephens et al. (2016) derived extreme sea-level elevations for open-coast locations. The extreme sea-level elevations for a point near Catalina Bay over a range of annual exceedance probabilities (AEP) and average recurrence intervals (ARI) are shown in Table 2-2.

Table 2-2: Extreme sea-level elevations near Catalina Bay (Source: Stephens, et al. 2016)

Annual exceedance probability (AEP)	50%	20%	10%	5%	2%	1%	0.5%
Average recurrence interval (ARI) (years)	2	5	10	20	50	100	200
Elevation (RL m)	2.23	2.31	2.37	2.42	2.49	2.55	2.60

2.4.3 Sea level rise

The Ministry for Environment's recently-released national guidance (Ministry for the Environment, 2017) recommends use of four sea level rise (SLR) scenarios corresponding to different Representative Concentration Pathways (RCPs), essentially these are emissions scenarios. Table 2-3 the SLR allowances for these scenarios in 2070 and 2120.

Table 2-3: Sea level rise projections from the 1986-2005 baseline for the four emission scenarios (MfE, 2017)

Year	RCP 2.6 M	RCP 4.5 M	RCP 8.5M	RCP 83rd %
2070	0.32	0.36	0.45	0.61 m
2120	0.55	0.67	1.06	1.36 m

MSL is the same for both 1986 -2005 and 2006-2011 baselines

The above guidance compares well with the Auckland Unitary Plan: Operative in Part (AUP:OP) policy, which requires consideration of a SLR allowance of 1.0m over 100 years as the base case.

For the design of the breakwater a 50 year design life will be considered relating to a SLR of 0.5m.

2.5 Waves

2.5.1 Wind and wave climate

The site is located in the north-western extent of the inner Waitemata Harbour, facing towards the south/south-east and is exposed to wind-waves from east to south (clockwise). The predominant wind direction in the Auckland region as well as in the Hobsonville area is from the southwest. This is particularly so in winter and spring, but in summer the proportion of winds from the northeast increases. This arises from the changing location of the high pressure belt, which is further south in summer and early autumn than it is in winter and spring (Chappell, nd). The maximum average monthly mean wind speed is 3.6 m/s in the months of October-November (Figure 2-2).

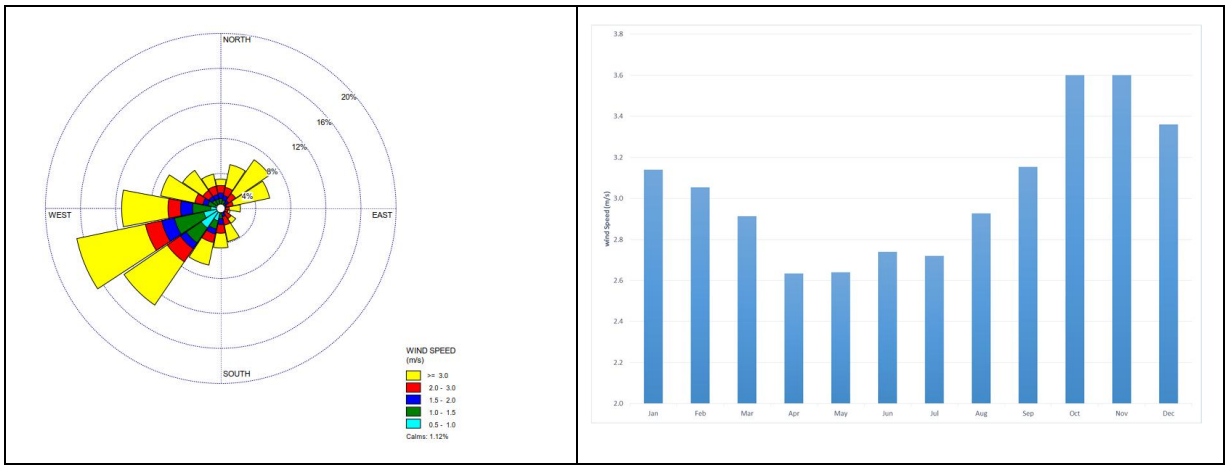


Figure 2-2 Wind Rose and monthly mean wind speed (1996-2010) for Henderson station, around 8 km apart (Source: Clifo, NIWA).

The height of wind-generated waves is dependent on water depth, fetch length, wind speed and duration. The maximum southerly fetch length is approximately 7 km, and is relatively sheltered from other directions.

T+T has previously developed a SWAN (Simulating Waves in the Nearshore) model for the Hauraki Gulf including the Waitemata Harbour to assess the nearshore wave heights. SWAN is a third-generation wave model, developed at Delft University of Technology, which computes random, short-crested wind-generated waves in coastal regions and inland waters (Booij et al., 1999). Waves were generated by wind with an Average Recurrence Interval (ARI) wind speed of 1 year, 50 years and 100 years, with wind speeds derived from AS/NZS1170.2 (2011). An example output is shown on Figure 2-3 and wave heights in Catalina Bay project area in Table 2.4

. MHWS levels have been adopted instead of 1% AEP water levels, because it is unlikely that storm tides (generated by winds and waves from north to east) coincide with waves generated by wind from south. The wave heights for the

Table 2.4: Wave heights for 1 yr, 50 yr and 100 yr ARI

ARI (years)	Significant wave height, H_s (m)	Peak Period, T_p (s)
1	0.5	2.2
50	0.7	2.5
100	0.9	2.6

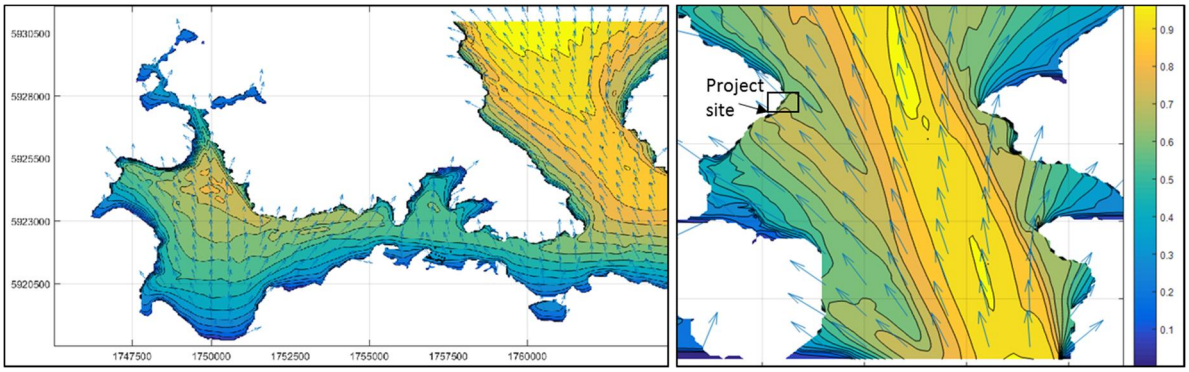


Figure 2-3 Example of significant wave height (m) for 100 year ARI from south at MHWS water level

2.5.2 Vessel wakes

The facility is located near a channel with passing vessels including the ferry service to Hobsonville ferry terminal. It is expected the maximum vessel wake will be up to 0.4m in height with wave periods 2 to 4 seconds.

2.6 Currents

An assessment of tidal currents was undertaken by Beca (2009) as part of a resource consent application for previously proposed marine works at Catalina Bay. It established from a hydrodynamic model that the currents in the vicinity of Catalina bay reached velocities of 1 knot (0.5m/s) in the main channel for the ebb of a spring tide but are much less closer to the shore.

2.7 Geology and sediments

Based on information provided in a geotechnical investigation by Beca and recorded in a geotechnical factual report (Beca, 2009). It was found that the geological conditions of the site consist of (in order) marine deposits, Puketoka Formation and East Coast Bays Formation (ECBF).

Gregory et al (1994) details the sediment types present in the Upper Waitemata Harbour which are predominately mud, sandy mud and muddy sand, with gravelly sand, gravel and rock outcrops present to a lesser extent, this is illustrated in Figure 2-4. The sediments are influenced by the wind and currents experiences in different areas of the harbour, as expected larger sediments are found in the main body of the harbour with a decrease in sediment size in the upper reaches of the creeks/estuaries.

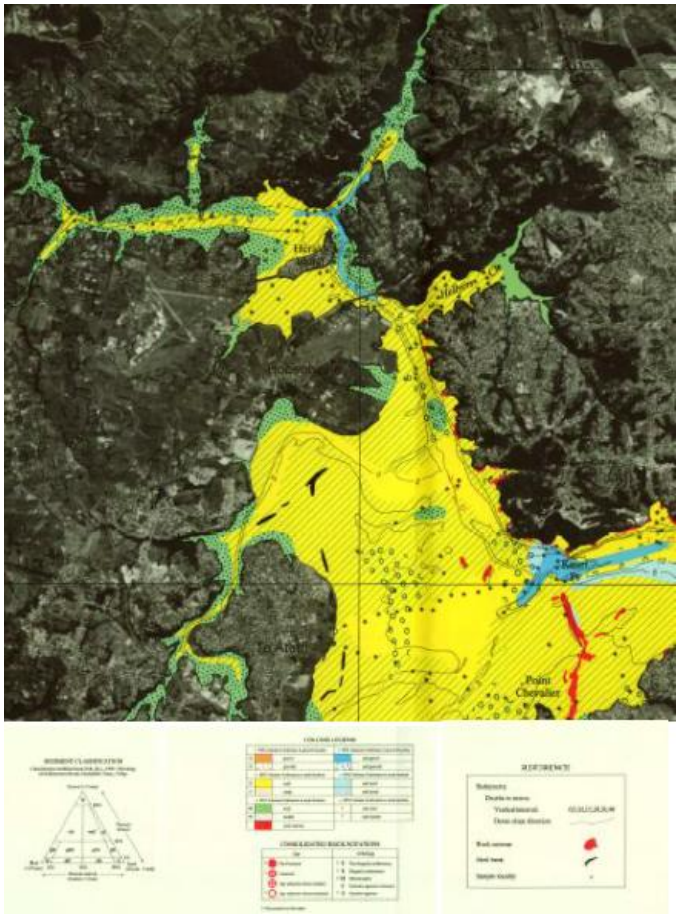


Figure 2-4 Sediment types and distribution in the Upper Waitemata Harbour (Gregory et al, 1994)

2.8 Sediment transport

From Beca's (2009) report on the coastal processes for Catalina Bay it was detailed that from studies by Gregory and Thompson (1973), found that most of the fine sediments enter the harbour through weathering and erosion in the catchments of tributary streams and surrounding cliffs. The finer sediments are being moved to the shore whereas areas of stronger currents such as the main channel the sediment size is larger. Close to the shoreline at Catalina bay to the south-west of the site is an area of mangroves which accumulates fine sediments.

Studies of sediment transport rates since human colonisation suggest that Catalina channel is shifting towards Hellyers Creek as the immediate channel appears to be accumulating sediment at 4.8mm/year (Hume, 1983).

3 Description of proposed works

The rowing and sailing clubs currently located at Catalina Bay are to be moved to the proposed Marine Recreational Facility, which will offer water access for marine recreational crafts for the clubs and the public. The water access will consist of a timber jetty extending eastwards from the land towards the main channel, it will connect to concrete pontoons via an aluminium gangway, to allow access at the varying states of the tide. Dredging will be required to allow for access of small keeled yachts and other vessels and ensure the pontoon does not ground at LAT. A number of layout options have been considered, looking at the length of the jetty and quantity of dredging. The preferred overall layout of the water access and dredging is provided in Figure 3-1, and is shown in more detail on drawing 1006452-RC02 in Appendix A.

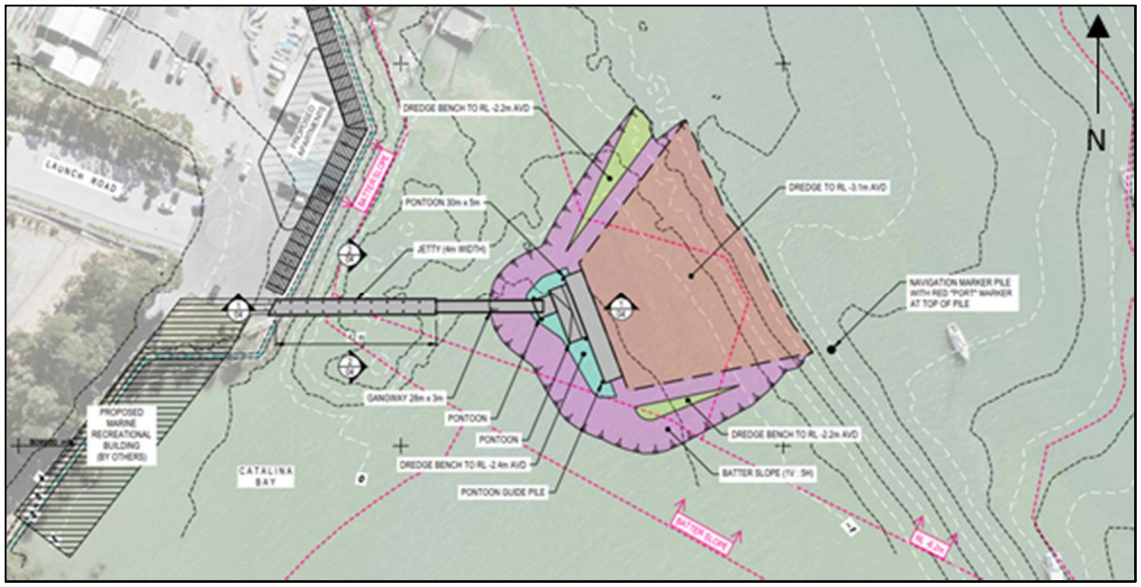


Figure 3-1 Water access jetty and pontoon layout (dwg. 1006452-RC02)

3.1 Water access jetty and pontoon options

HLC advised the marine recreational building was to be located in the region of the recreation reserve located to the south-west of the site. T+T was advised to consider water access jetty and pontoon locations in the vicinity of the building. In addition the facility needs to consider for yachts (with keels) to access the facility providing a clear water depth of 1.6m, for the majority of predicted tide levels.

It is important to note that initial options had to keep the water space clear at the end of Boundary Road as this area was under a permit from Panuku to launch super yachts. In June 2019 it was advised by HLC that the structures could enter this water space as Panuku's permit will be expiring in the near future.

Initial options considered the water access north of the marine Recreational facility as this provided shorter access to deeper water whilst still being close enough to the new club buildings to move vessels to and from. Figure 3-2 shows two of the options developed illustrating the jetty length difference between the no dredging and dredging options. It was decided by HLC that although we could reach deeper water in a shorter distance than near the marine recreational facility the location did not fit with the proposed high-end apartments due to the potential of disturbance from early morning rowing activities.

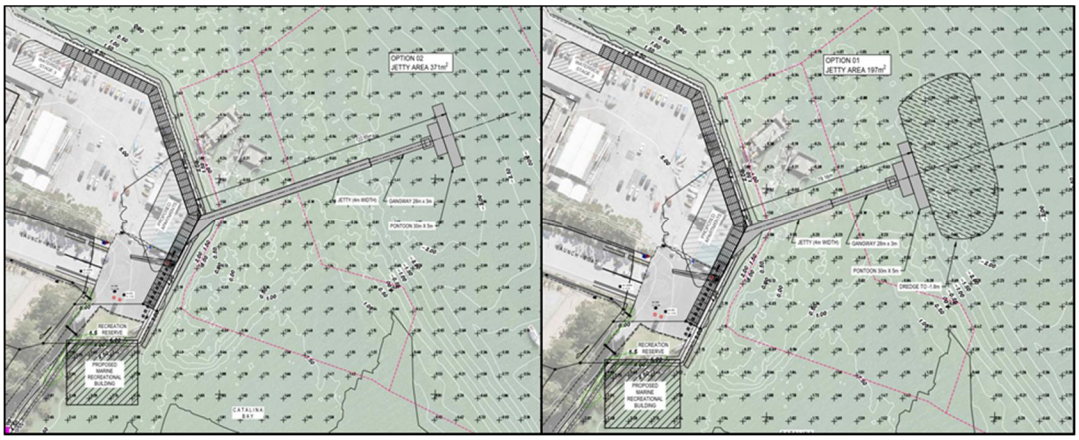


Figure 3-2 Water access options near deeper water (no dredging option (left), moderate dredging option (right))

Moving away from the location shown in Figure 3-2, additional options were considered closer to the marine recreational facility. Due to the shallow water depths closer to the facility it was thought splitting the water access could be an option as only the yachts need the 1.6m clear water depth, sailing dinghies and rowing skiffs can operate in a shallower water depth with some dredging proposed close to shore. Figure 3-3 illustrates options with a fixed height jetty with step access and the option for either a pontoon close to the proposed club house facility or a boat ramp. A meeting was held with Auckland Council to discuss the project, during this meeting it was recommended that the water access should all be part of the one facility to reinforce the purpose of the building. In addition, separating the facilities did not prove to be cost effective.

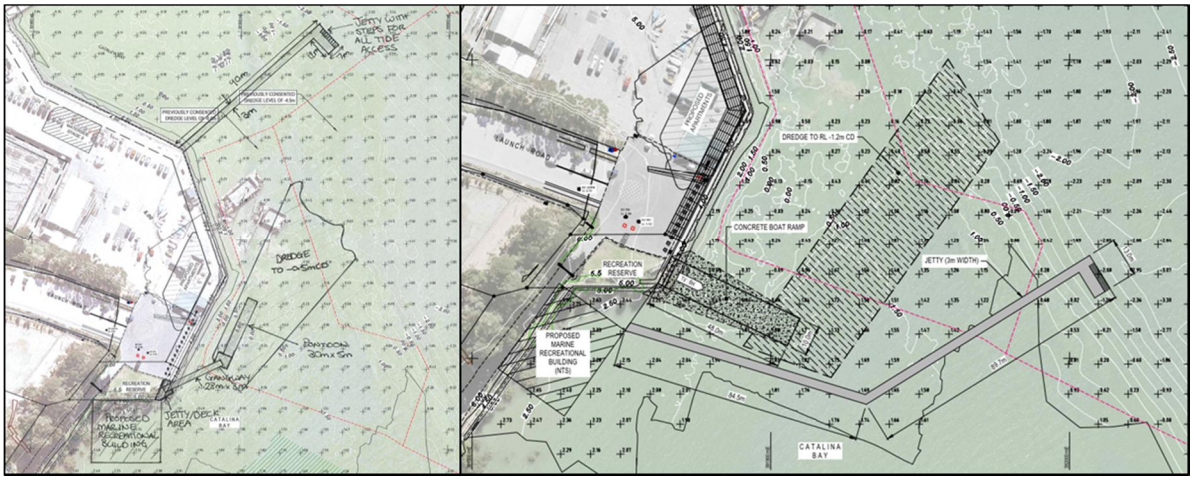


Figure 3-3 Water access options for split access for yachts and dinghies/rowing skiffs

Figure 3-4 provides options that consider water access for all activities and connection to the marine recreational facility. If no dredging was to be undertaken the jetty length would need to be approximately 140m, which would result in additional piling and greater visual effects. Considering some dredging required to meet the 1.6m clear water depth for the majority of the tidal cycle, the jetty length reduces to approximately 42m. HLC's preferred option was to shorten the jetty length and undertake some dredging. This is significantly less visually obtrusive and provides a more cost effective option and easier accessibility for transporting rowing skiffs and dinghies to the water. In addition, the number of piles decreases reducing seabed disturbance.

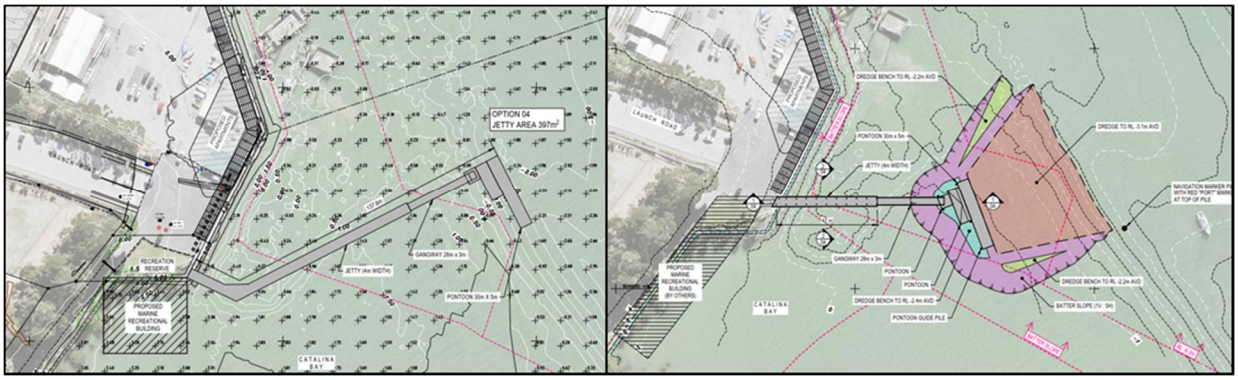


Figure 3-4 Water access options for combined facility connecting to Marine Recreational building

3.2 Proposed design solution

3.2.1 Timber jetty

A timber jetty will be constructed to allow access for rowing boats, dinghies and yachts to deeper water. The jetty will connect into the deck of the proposed Marine Recreational Building, resulting in an integrated facility. At the seaward end of the jetty a gangway will be provided to access the pontoons. The key jetty details are outlined in the sections below.

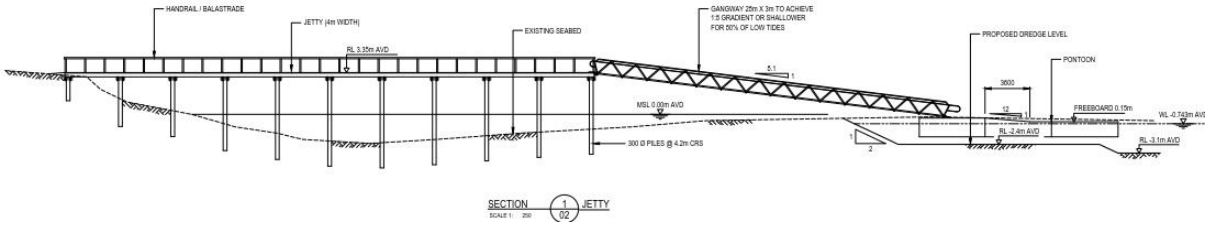


Figure 3-5 Long section of timber jetty

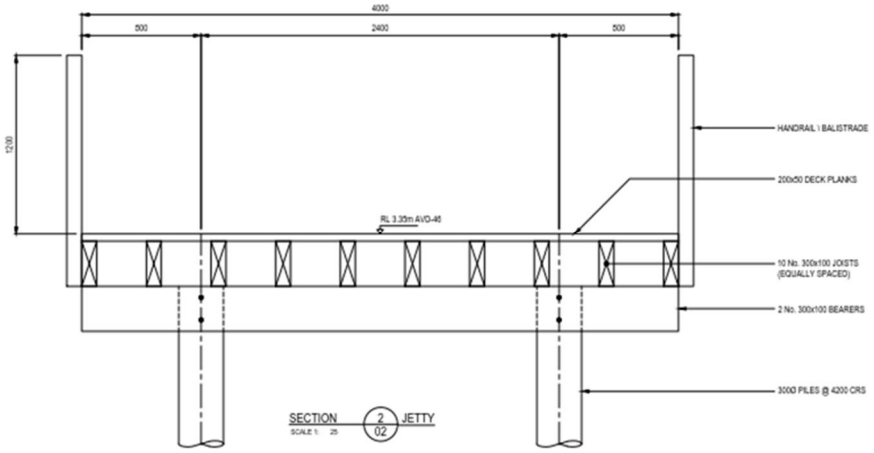


Figure 3-6 Cross section of timber jetty

3.2.1.1 Design life

The design life of the jetty is to be 50 years. This will be achieved by using imported hardwood timber piles complying with Australian Standard AS5604 for durability in the marine environment.

3.2.1.2 Jetty layout

To allow for rowing boats and dinghies to launch from the pontoons, the jetty clear width is 4m and will have 1.2m handrails either side for safety. The deck will be supported by 2 x 300mm diameter timber piles either side of the jetty cross-section, as shown in Figure 3-6.

The length of the jetty is to be approximately 42m extending from the land straight eastwards towards the main channel. The timber piles will be spaced at 4.2m centres along the length of the jetty, refer to Figure 3-5. This will result in a 22 total number of 300mm diameter timber piles. The embedment depth of the piles will be determined during detailed design of the jetty, and is likely to be either 2m into ECBF (East Coast Bays formation sandstone), or 4 to 5m into marine sediments.

3.2.1.3 Deck level

The deck level of the structure has been established on the basis that the jetty should not go under water in a 1% AEP storm tide, but may experience some water splash. The deck level is to be +3.40m RL based on the criteria outlined in Table 3-1.

Table 3-1: Criteria to define deck level

Criteria	Value
1% AEP storm tide	2.55m RL
50 years sea level rise	0.50m
Half of the 1 year ARI wave height ($0.5H_s$)	0.25m
Freeboard	0.10m
Total deck level	3.40m RL

3.2.2 Pontoon system

The pontoon system will be a proprietary pontoon design consisting of concrete flotation units supported by guide piles. The pontoon will have a freeboard of between 100mm and 150mm and will be suitable for boarding rowing skiffs. The guide piles will most likely be timber piles sleeved with HDPE. It is expected that there will be a total of 5 guide piles, however this is to be confirmed by the pontoon supplier who will undertake the design and build of the system.

The design life of the pontoons will be 25 years.

3.2.3 Dredging

To provide access to the pontoon for small keeled yachts with a maximum draft of 1.4m and an under-keel clearance of 0.2m, we have allowed for a clear water depth of 1.6m at approximately MLWS. In order to limit the frequency of maintenance dredging to maintain the desired navigation depth we have also allowed for approximately 0.2m of siltation resulting in a design minimum dredged contour of approximately -3.1m RL. Alternative shallower depths of -2.2m RL and -2.4m RL have been selected where access for rowing boats and dinghies only is required, and pontoon clearance to the seabed, respectively, at LAT.

The 0.2m depth allowance for siltation is based on the published rate of infilling of 4.8mm/year, increased by approximately 40% to allow for higher infilling rates in the dredged area and thus allows for approximately 30 years before maintenance dredging may be required. The total dredge volume down to design depth is approximately 6100m^3. The area of dredging is approximately 4000m^2, therefore allowing for an over-dredged allowance of 0.2m results in a total estimated dredged volume of 7000m^3

There is an existing dredging consent is in place at Catalina Bay from a previous consent application lodged in 2010 (permit 37469 and 37470), and proposed dredged depths and quantities are less than those covered in the existing consent. All dredged material will be removed from site and disposed of in an approved disposal site.

4 Proposed construction methodology

The construction methodology will depend on the final detailed design and methodology proposed by the awarded contractor. Construction of the water access jetty and the marine recreational facility sub structure that the building will be constructed on will involve the installation of concrete and timber piles into the foreshore/seabed area. These piles are likely to need to be installed into

pre-drilled holes, and if soft marine sediments exist on the surface the contractor will require a steel casing being installed around the pile location, with the casing being removed following installation of the pile. Piling for both structures is likely to be carried out with land based piling equipment operation from temporary staging, although some of the piles may also be installed be piling crane operation from a barge.

All excavated pile spoil shall be removed from the coastal marine area and shall be disposed of off-site and an approved disposal site. Anticipated construction methodologies are described below.

A typical method for the construction of the water access jetty and pontoon is as follows:

- Establish a site working area including temporary fencing around landside working area, buoys to demarcate the constriction area and signage (where necessary).
- Establish a laydown area on the landside.
- Remove concrete block and wall from jetty entrance area and dispose offsite.
- Land based drilling rig operation from temporary staging, or a drilling rig on a barge may be used to pre drill at the pile locations with pile holes being drilled to slightly less than the pile diameter.
- Sharpen end of timber pile and drive using an impact hammer.
- Cut pile to level as required, HDPE sleeve to be sleeved over the pontoon piles.
- Construct the deck of the structure, working from the land going seawards.
- Pontoons and gangway to be constructed off-site by suppliers.
- Pontoon to be floated to site and positioned and secured on the pontoon guide piles.
- Gangway to be barged in and craned into position and fixed to the jetty.
- Demobilise from site and remove all debris.

A typical method for the construction of the marine recreational building sub structure is as follows:

- Land based drilling rig to be mobilised and installation of temporary works consisting of H-beam piles and beams.
- Install bored reinforced concrete piles, permanent or temporary casing to be adopted to prevent collapse of the bored holes during drilling. An auger will be used to drill pile holes into ECBF rock with the minimum embedment depth of 3 times the pile diameter.
- Precast concrete beams to be transported to site by road and lifted into position.
- Temporary works to be removed from site.
- Building construction to continue.
- Demobilise from site and remove all debris.

5 Coastal effects assessment

5.1 Coastal marine area occupation

The coastal marine area (CMA) is defined as the area within MHWS. The approximate CMA occupation of the marine recreational building sub structure, water access jetty and pontoon system are outlined in Table 5.1 (to be confirmed in detailed design).

Table 5.1: Approximate CMA occupation of the water access jetty and pontoon

Item	Quantity
Marine recreational building sub structure area (area in CMA)	895m^2
Marine recreational building sub structure piles	11
Jetty deck area	168m^2
Jetty piles	22
Pontoon area (floating)	250m^2
Pontoon guide piles	5
Dredge volume[1]	6100m^3

[1]Dredging is within a consented dredge area.

The dredging is within a consented dredge area and is less volume than currently consented. The coastal effects of dredging will not be assessed in this report as there is an existing consent for this work. The coastal effects assessment will consider the building sub structure, timber jetty and pontoon system.

5.2 Effects on coastal processes

5.2.1 Sea level

The main tidal channel along the axis of the proposed water access jetty is approximately 350m across at low tide. The jetty and pontoon works are to be constructed in the present inter-tidal area outside of the present main tidal channel. The potential loss of mid-tide tidal cross-sectional area is estimated to be less than 0.1%, and accordingly there will be no measurable effect on the static water level caused by the proposed works. The building sub structure and jetty structure are open piled structures with a floating pontoon, and the tides will flow freely around them. The piled structures will connect to the shore at the existing/higher ground level.

5.2.2 Waves

There will be no increase in wave height as a result of the open piled structure. The piles are spaced allowing for wave to propagate under the structures, with no transmission or reflection as a result of the building sub structure or jetty.

5.2.3 Currents

There will be a localised minor increases in current velocity around the piles, however this will not affect the overall system. Localised scour of surface sediments at the pile may occur due to current action but this effect is expected to be confined to the area immediately around the pile and will be allowed for in pile design.

5.2.4 Sediment processes

The open piled building sub structure and jetty will have limited effect on the existing sediment transport regime due to the waves and currents being able to move freely under the structure with minimal interactions with the structure.

5.3 Construction effects

The main disturbance to the seabed will be from the pile installation of the concrete building sub structure piles, timber jetty piles and pontoon guide piles.

It is expected that land and marine boring/piling rigs will be used. The land rig will likely be used for the building sub structure and a mixture of land and marine rig will be used for the jetty and pontoon piles. The access will be dependent on the location of the pile and if can safely be accessed by the landside rig.

In areas where soft surface sediments overlay ECBF sandstone, the contractor will require a steel casing to prevent the soft sediments from entering the pile hole. The same steel casing will prevent the suspension of sediments into the water column from the pile pre-drilling operation. If drilling directly into sandstone, then the majority of the dredged spoil is expected to be able to be removed from the manine environment with no more than minor suspension of sediment into the water column.

It is still possible that some material will be put into suspension by the piling process, however any coarse material will settle close to the area of disturbance and result in only slightly higher levels of discolouration around the work area as sediment is brought into suspension. If sediment suspension is more than minor the use of a floating a silt curtain be utilised to contain suspended sediments to the work area during piling.

The probability of large silt plumes as a result of the piling operations during the construction phase is considered low and the short term effects to the coastal processes are considered to be minor.

For the building sub structure reinforced concrete piles are to be constructed. As outlined in Section 4 the methodology as well as boring through the seabed concrete will be poured to form the pile, using a steel pipe/pile as a temporary casing/formwork. The concrete will be poured using the tremie method, which consists the lower end of the pipe being kept immersed in fresh concrete so that the rising concrete from the bottom displaces water without washing out cement contents. Applying this method will have no noticeable effect on the CMA.

Due to the sensitivity of the environment, a Construction Management Plan (CMP) is proposed to be lodged with Auckland Council (Resource Consents Department) prior to works.

5.3.1 Vehicle, machinery movements and access

Construction is expected from the land and marine side. From the land a temporary access (to be established and de-established during works) will be used to transport equipment on and off the foreshore. Marine access will be via a barge accessing at high tide.

Any refuelling will be undertaken on land and outside of the CMA.

Public access along Boundary Road will be restricted for the full duration of the construction activity. Noise will be controlled by hours of work in accordance with Auckland Council requirements, with no work carried out on Sunday.

Timber will be delivered from a sawmill to the site throughout the construction period, this timber is expected to be temporarily stockpiled in a designated area outside of the CMA after which it is used for the construction of the timber jetty.

6 References

Australian Standards/New Zealand Standards (2011) 1170.2 Structural design actions - Part 2: Wind actions.

Beca (2009) Coastal Processes in the Upper Waitemata Harbour, 21 August 2009.

Gregory, M. R., & Thompson, S. A. (1973). Recent sediments of Waitemata Harbour. Auckland, New Zealand: Auckland Harbour Board, Auckland Regional Authority

Hume, T. M. (1983). Upper Waitemata Harbour sediments and the inferred impact of future catchment and estuary use change. Auckland Regional Authority for the National Water and Soil Conservation Organisation.

Ministry for the Environment (2017). Preparing for climate change: A guide for local government in New Zealand.

Stephens, S., Wadhwa, S. (2012) Development pf an updated Coastal Marine Area boundary for the Auckland Region. Prepared by the National Institute for Water and Atmospheric Research, NIWA, HAM2012-111.

Stephens, S., Wadhwa, S and Tuckey, B (2016). Coastal inundation by storm-tides and waves in the Auckland region. Prepared by the National Institute for Water and Atmospheric Research, NIWA and DHI Ltd for Auckland Council. Auckland Council technical report, TR2016/017T+T (2012).

7 Applicability

This report has been prepared for the exclusive use of our client HLC, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that our client will submit this report in support of an application for resource consent and that Auckland Council as the consenting authority will use this report for the purpose of assessing that application.

Tonkin & Taylor Ltd

Report prepared by:	Authorised for Tonkin & Taylor Ltd by:
.....	.....
Amy Sheppard	Grant Pearce
Coastal Engineer	Project Director

AMSH
p:\1006452\workingmaterial\2_consent design\4_coastal\1006452 consent design report_1.0.docx

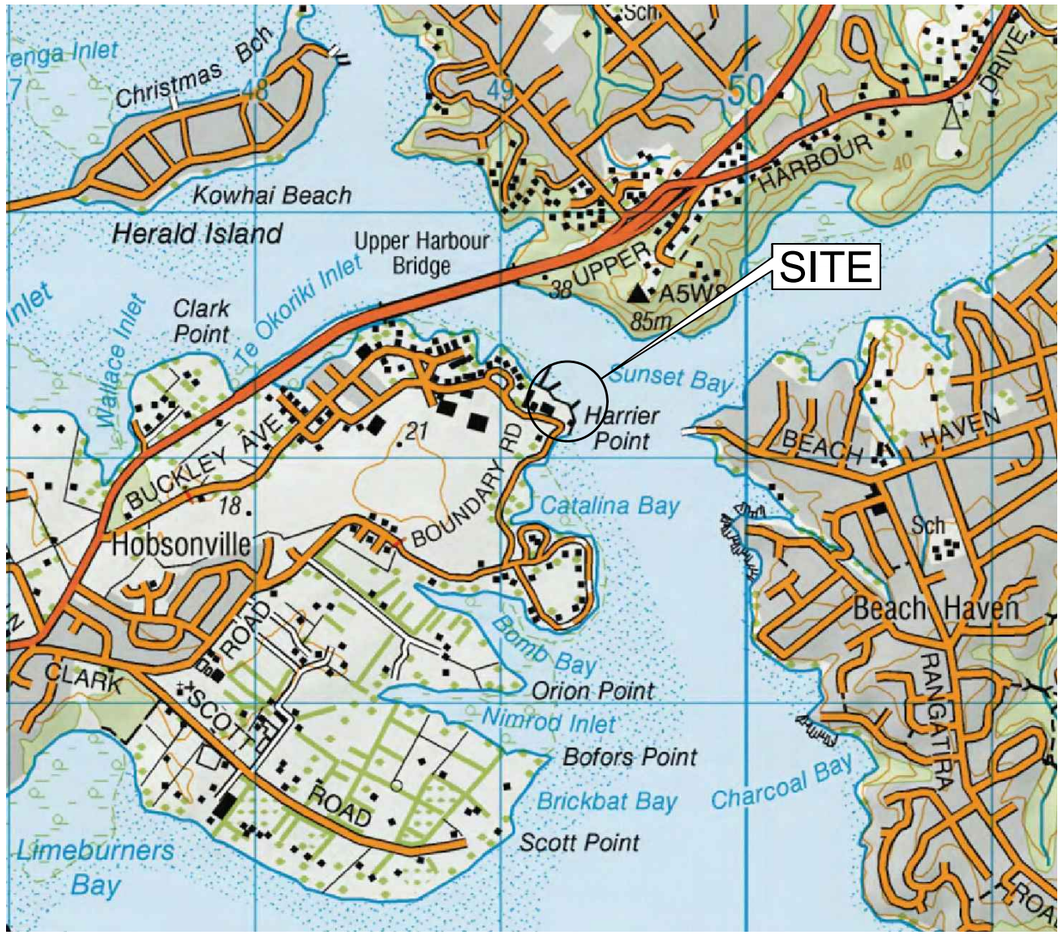
Appendix A: Resource Consent Drawings

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-00.dwg 2019-Oct-25 9:11:25 AM Plotted By: TREVOR JONES

HLC
MARINE RECREATIONAL FACILITY - CATALINA BAY

RESOURCE CONSENT

DRAWING	Rev	Title
• 1006452-RC00	1	DRAWING LIST & LOCATION PLAN
• 1006452-RC01	1	EXISTING LAYOUT
• 1006452-RC02	1	PROPOSED JETTY AND PONTOON
• 1006452-RC03	1	DREDGING PLAN
• 1006452-RC04	1	TYPICAL SECTIONS



TOPOMAP SOURCED FROM LINZ DATA SERVICE <HTTPS://DATA.LINZ.GOVT.NZ/LAYER/50767-NZ-TOPO50-MAPS/>, LICENSED BY LINZ FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0). ACCESSED 10/10/2018.

LOCATION PLAN
SCALE 1:25,000

• Denotes drawing this issue: 6/08/2019

A3 SCALE 1:25000
0 0.5 1.0 1.5 (km)

ORIGINAL IN COLOUR

Tonkin+Taylor
Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19

DESIGNED	AMSH	Jun.19
DRAWN	TJ	Jun.19
DESIGN CHECKED	GWP	10/19
DRAWING CHECKED	RBS	10/19

DRAWING STATUS: RESOURCE CONSENT

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

APPROVED DATE

CLIENT HLC
PROJECT MARINE RECREATIONAL FACILITY- CATALINA BAY
TITLE WATER ACCESS LOCATION
DRAWING LIST & LOCATION PLAN
SCALE (A3) 1:25,000 DWG No. 1006452-RC00 REV 1

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-01.dwg 2019-Oct-25 9:11:33 AM Plotted By: TREVOR JONES

391800 mE
391900 mE
392000 mE
392100 mE
810000 mN
809900 mN

ROWING CLUB BOAT STORAGE

SAILING CLUB & BOAT STORAGE

LAUNCH ROAD

RECREATION RESERVE

CATALINA BAY

WAITEMATA HARBOUR

TIDE BAR

TIDE	AVD-46
HAT	2.11 m
MHWS	1.77 m
MHWN	1.19 m
MSL	0.16 m
MLWN	-0.79 m
MLWS	-1.35 m
LAT	-1.73 m

NOTES:
1. COORDINATE DATUM: NZGD 2000, MT EDEN CIRCUIT.
2. LEVEL DATUM: AUCKLAND VERTICAL DATUM 1946 (MSL), REFERRED TO AS RL.
3. BATHYMETRIC SURVEY PROVIDED BY PORTS OF AUCKLAND (2017).
4. TOPOGRAPHIC SURVEY PROVIDED BY HARRISON GRIERSON (2018).
5. AERIAL PHOTO SOURCED FROM AUCKLAND COUNCIL GIS WEBSITE.

LEGEND

EXISTING CONTOURS (1.0m INTERVALS)

EXISTING CONTOURS (0.5m INTERVALS)

MEAN HIGH WATER SPRINGS (MHWS)

A3 SCALE 1: 1000

0 5 10 15 20 30 40 50 (m)

ORIGINAL IN COLOUR

Tonkin+Taylor

Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19

DESIGNED	AMSH	Jun.19	DRAWING STATUS: RESOURCE CONSENT
DRAWN	TJ	Jun.19	
DESIGN CHECKED	GWP	10/19	
DRAWING CHECKED	RBS	10/19	

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

APPROVED DATE

CLIENT **HLC**

PROJECT **MARINE RECREATIONAL FACILITY - CATALINA BAY**

TITLE WATER ACCESS LOCATION
EXISTING LAYOUT

SCALE (A3) 1:1000 DWG No. 1006452-RC01 REV 1

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-02.dwg 2019-Oct-25 9:36:59 AM Plotted By: TREVOR JONES

DREDGE VOLUME	6100 m^3
JETTY AREA	168 m^2

TIDE BAR

TIDE	AVD-46
HAT	2.11 m
MHWS	1.77 m
MHWN	1.19 m
MSL	0.16 m
MLWN	-0.79 m
MLWS	-1.35 m
LAT	-1.73 m

NOTES:
1. COORDINATE DATUM: NZGD 2000, MT EDEN CIRCUIT.
2. LEVEL DATUM: AUCKLAND VERTICAL DATUM 1946 (MSL), REFERRED TO AS RL.
3. BATHYMETRIC SURVEY PROVIDED BY PORTS OF AUCKLAND (2017).
4. TOPOGRAPHIC SURVEY PROVIDED BY HARRISON GRIERSON (2018).
5. AERIAL PHOTO SOURCED FROM AUCKLAND COUNCIL GIS WEBSITE.
6. DREDGE LEVEL CONSIDERS 0.2m ADDITIONAL DEPTH TO CONSIDER 30 YEARS BEFORE MAINTENANCE DREDGING REQUIRED.

LEGEND
- EXISTING CONTOURS (1.0m INTERVALS)
- EXISTING CONTOURS (0.5m INTERVALS)
- MEAN HIGH WATER SPRINGS
- WALKWAY (BY OTHERS)
- PREVIOUSLY CONSENTED DREDGE AREA FROM BECA DRG 3121410-C-120 REV B DATED APRIL 2009 UNDER PERMIT 37469 AND 37470

A3 SCALE 1: 1000
0 5 10 15 20 30 40 50 (m)

ORIGINAL IN COLOUR

Tonkin+Taylor
Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19

DESIGNED	AMSH	Jun.19
DRAWN	TJ	Jun.19
DESIGN CHECKED	GWP	10/19
DRAWING CHECKED	RBS	10/19

DRAWING STATUS: RESOURCE CONSENT

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

APPROVED DATE

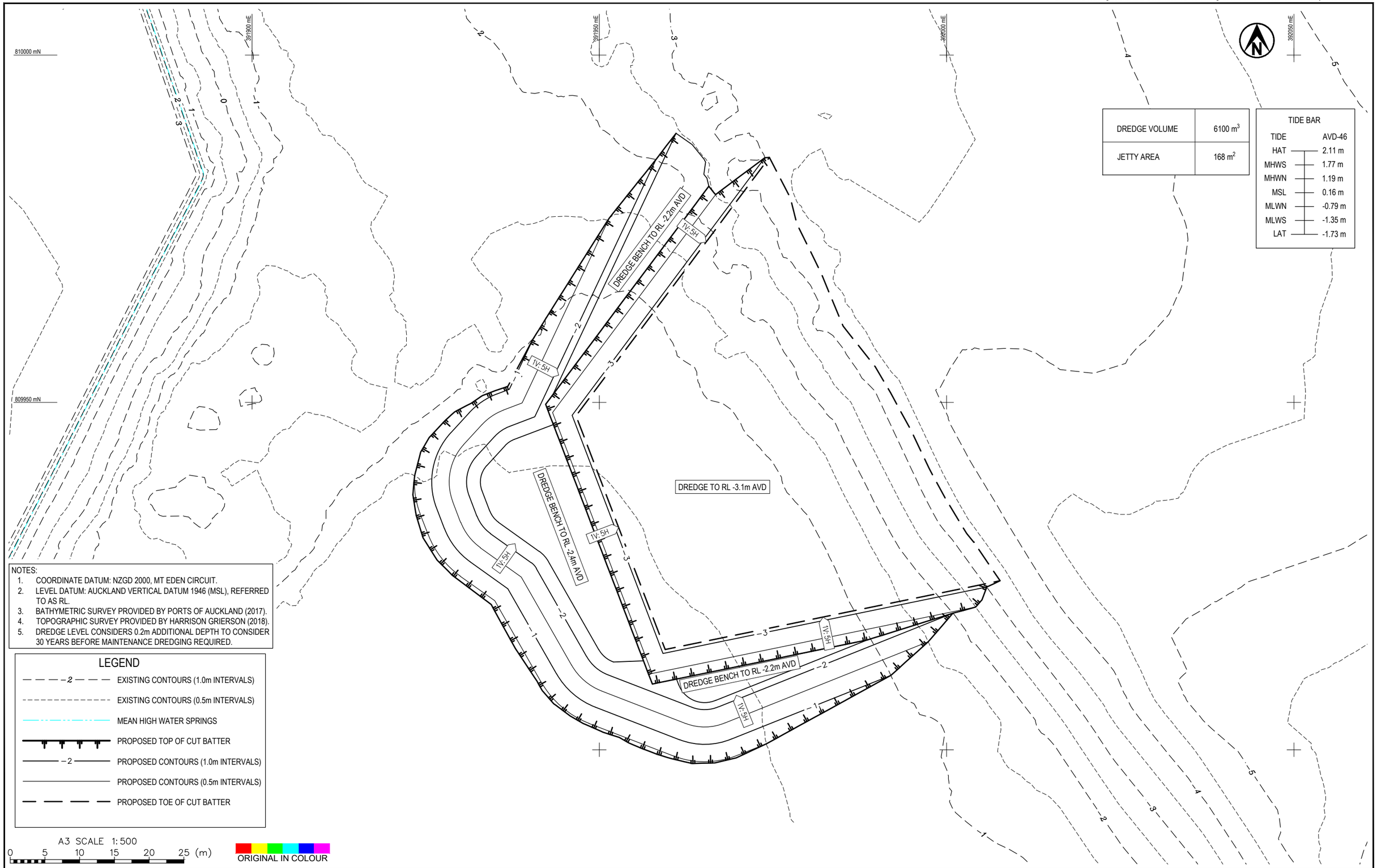
CLIENT HLC

PROJECT MARINE RECREATIONAL FACILITY - CATALINA BAY

TITLE WATER ACCESS LOCATION
PROPOSED JETTY AND PONTOON

SCALE (A3) 1:1000 DWG No. 1006452-RC02 REV 1

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-03.dwg 2019-Oct-25 9:11:46 AM Plotted By: TREVOR JONES



NOTES:
1. COORDINATE DATUM: NZGD 2000, MT EDEN CIRCUIT.
2. LEVEL DATUM: AUCKLAND VERTICAL DATUM 1946 (MSL), REFERRED TO AS RL.
3. BATHYMETRIC SURVEY PROVIDED BY PORTS OF AUCKLAND (2017).
4. TOPOGRAPHIC SURVEY PROVIDED BY HARRISON GRIERSON (2018).
5. DREDGE LEVEL CONSIDERS 0.2m ADDITIONAL DEPTH TO CONSIDER 30 YEARS BEFORE MAINTENANCE DREDGING REQUIRED.

LEGEND
- EXISTING CONTOURS (1.0m INTERVALS)
- EXISTING CONTOURS (0.5m INTERVALS)
- MEAN HIGH WATER SPRINGS
- PROPOSED TOP OF CUT BATTER
- PROPOSED CONTOURS (1.0m INTERVALS)
- PROPOSED CONTOURS (0.5m INTERVALS)
- PROPOSED TOE OF CUT BATTER

A3 SCALE 1:500
0 5 10 15 20 25 (m)

ORIGINAL IN COLOUR

Tonkin+Taylor
Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE	APPROVED	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19		

DESIGNED	AMSH	Jun.19	DRAWING STATUS: RESOURCE CONSENT
DRAWN	TJ	Jun.19	
DESIGN CHECKED	GWP	10/19	
DRAWING CHECKED	RBS	10/19	

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

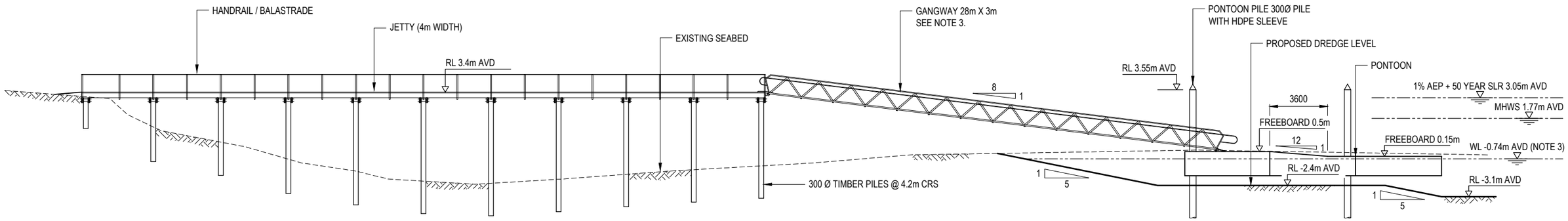
CLIENT **HLC**

PROJECT **MARINE RECREATIONAL FACILITY - CATALINA BAY**

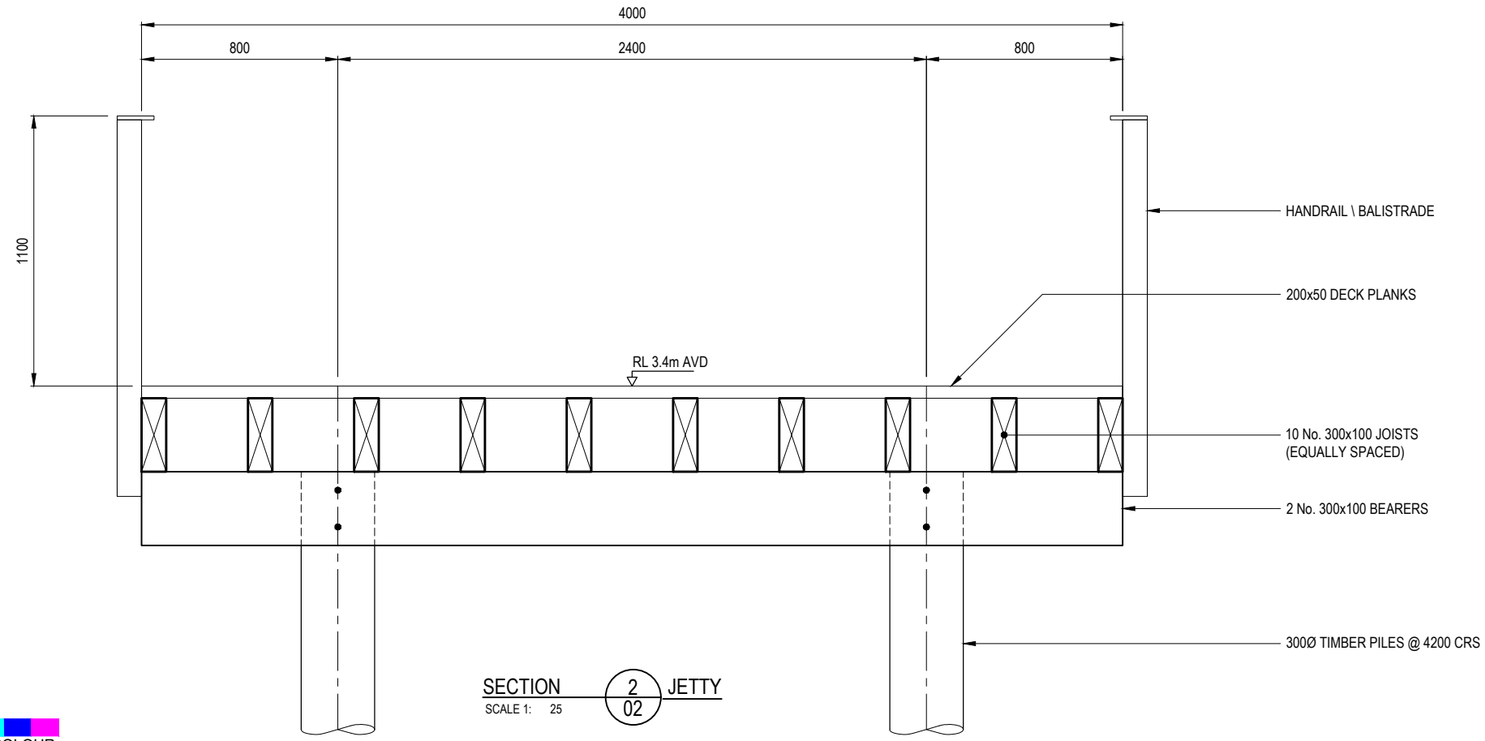
TITLE WATER ACCESS LOCATION DREDGING PLAN

SCALE (A3) 1:500 DWG No. 1006452-RC03 REV 1

L:\1006452\WorkingMaterial\CAD\DWG\1006452-RC-04.dwg 2019-Oct-25 9:11:50 AM Plotted By: TREVOR JONES



SECTION 1 JETTY
SCALE 1: 250
02



SECTION 2 JETTY
SCALE 1: 25
02

TIDE BAR

TIDE	AVD-46
HAT	2.11 m
MHWS	1.77 m
MHWN	1.19 m
MSL	0.16 m
MLWN	-0.79 m
MLWS	-1.35 m
LAT	-1.73 m

NOTES:
1. LEVEL DATUM: AUCKLAND VERTICAL DATUM 1946 (MSL), REFERRED TO AS RL.
2. DREDGE LEVEL CONSIDERS 0.2m ADDITIONAL DEPTH TO CONSIDER 30 YEARS BEFORE MAINTENANCE DREDGING REQUIRED.
3. GANGWAY TO ACHIEVE 1:8 GRADIENT OR SHALLOWER FOR 80% OF LOW TIDES.

A3 SCALE 1: 250
0 5 10 15 (m)
ORIGINAL IN COLOUR

Tonkin+Taylor
Exceptional thinking together www.tonkintaylor.co.nz

REV	DESCRIPTION	CAD	CHK	DATE
1	RESOURCE CONSENT ISSUE	TJ	GWP	25.10.19

DESIGNED	AMSH	Jun.19	DRAWING STATUS
DRAWN	TJ	Jun.19	RESOURCE CONSENT
DESIGN CHECKED	GWP	10/19	
DRAWING CHECKED	RBS	10/19	

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

APPROVED DATE

CLIENT **HLC**

PROJECT **MARINE RECREATIONAL FACILITY - CATALINA BAY**

TITLE WATER ACCESS LOCATION
TYPICAL SECTIONS

SCALE (A3) AS SHOWN DWG No. 1006452-RC04 REV 1

www.tonkintaylor.co.nz

APPENDIX 10
MRC MANAGEMENT PLAN FRAMEWORK

flow
TRANSPORTATION SPECIALISTS

technical note

PROJECT	**CATALINA BAY MARINE SPORTS RECREATION CENTRE**
SUBJECT	**LOADING AND SERVICING MANAGEMENT FRAMEWORK**
TO	**ERIN TAYLOR**
FROM	RUSSELL BRANDON
DATE	25 SEPTEMBER 2019

The following technical note sets out a framework for the management of loading and servicing activities related to the Catalina Bay Marine Sports Recreation Centre (MRC). It is intended that this will form the basis of a management plan that can be implemented once the MRC is operational.

1 GENERAL LOADING AND SERVICING

All general loading and servicing should occur via the P5/loading space on the Launch Road, or alternatively the existing general parking on Launch Road. This includes the

- dropping off and picking up of people
- waste collection (with bins wheeled between the MRC and the parked vehicle)
- the delivery or collection of general provisions for the MRC (food and beverage or other supplies)

At the time this technical note was written, a concept for the Launch road roundabout had been prepared that included P5/loading space on the eastern edge, close to the MRC. This loading area is still subject to approval. It is intended that a P5/loading space of some form will be provided in close proximity, be it on the roundabout, or on Launch Road to the west of the roundabout.

2 TRANSPORTATION OF BOATS

2.1 Row boat transportation

It is understood that row boats need to be transported for regattas, and that it will not be practical for the loading and unloading boats to/from the trailer to occur from Launch Road. As such, it is proposed that the loading/and unloading of boats can occur via Boundary Road. When the loading/unloading of boats occurs, the following is recommended:

- The vehicle/boat trailer should be parked leaving at least 2 m space for pedestrians and cyclists using boundary to pass. Boundary Road should not be completely blocked at any time.
- Temporary advance warning signage should be put out on Boundary Road either side of the MRC to alert pedestrians, and particularly cyclists to the approaching activity, and encourage them to slow down.

  This signage could have the standard "!" symbol for hazards with a supplementary sign stating "Caution, boats on path".

- The area surrounding the boat vehicle/trailer should be delineated with cones/bars to ensure approaching pedestrians and cyclists are separated from the loading activities.

  No loading activity should occur within the 2 m width provided for pedestrians/cyclists to pass. This space should remain clear at all times.

- MRC management should appoint suitably qualified people to be responsible for ensuring the management plan is followed every time row boats are loaded/unloaded. Adherence to the management plan should be audited on a regular basis.

2.2 Sail boat transportation

It is understood that sail boats will be shifted between the sail boat storage area and the boat preparation area via Boundary Road. Boundary Road is 4 m in width at its narrowest, widening out to 5 to 6 m by the boat preparation area.

It is anticipated that the shifting of boats between these two areas can be undertaken safely with minimal impact on pedestrians and cyclists using Boundary Road. However, to help ensure pedestrian and cycle safety when this activity is occurring the following is recommended:

- Temporary advance warning signage should be put out on Boundary Road either side of the MRC to alert pedestrians, and particularly cyclists to the approaching activity, and encourage them to slow down.

  This signage could have the standard "!" symbol for hazards with a supplementary sign stating "Caution, boats on path".

- Boats should always be transported in single file, to one side of Boundary Road, allowing sufficient space for pedestrians and cyclists to pass. The path should never be completed blocked.

- MRC management should appoint suitably qualified people to be responsible for ensuring the management plan is followed every time sail boats are shifted between the storage and preparation areas. Adherence to the management plan should be audited on a regular basis.

flow TRANSPORTATION SPECIALISTS LTD
Level 1, 11 Blake Street, Ponsonby | PO Box 47497, Ponsonby, Auckland 1144 | p 09 970 3820 | f 09 970 3890 | www.flownz.com

APPENDIX 11
DESIGN REVIEW PANEL MEETING MINUTES

HOBSONVILLE POINT DESIGN REVIEW PANEL: MEMO

Date:	28 June 2019
Owner:	HLC
Designer:	SGA Limited
Project/Lot:	Marine Recreation Centre
Street/Road:	Boundary Road
Design Stage:	Developed Design/Detailed Design
Panel Members:	Jon Rennie (Chair) Peter Joyce (Apologies from David Irwin)
Other Attendees:	Erin Taylor (HLC) Orson Waldock (HLC) Roy Tebbutt (SGA)
HP DRP #:	20190628_2 _MRC
Location:	HLC Office, Boundary Rd, Hobsonville Point
Duration:	1.5 hours

Plan #:
1906 HLC DRP2-3 27JUN19 SGA.pdf Submitted to Basecamp 27/06/2019 by Roy Tebbutt

---

The Panel thanks the applicant for the revised submission and supports the design developments that have occurred.

The Building and Jetty design is in general supported (comment below). The panel believes that the landscaped area and interface is not fully resolved and requires more development (below) to clarify the public/private thresholds proposed.

Provisional approval based upon an offline approval of refinements to exterior (landscape) is proposed.

Building:

The panel supports the developed building design and the materials strategy to enable a more subtle 'camouflage' appearance, noting:

- The adjustment of the balcony to orient to the sea and align with the jetty geometry is endorsed;
- Applicant may need to find an alternative to proposed translucent cladding product due to its current certification status;
- The perforated sliding doors to the rowing boat enclosure is supported as this will assist with activation of this edge.

The panel note that the design seeks to maximise the activity down the walkway edge and interface, but given the nature of activities occurring along the edge, the façade will be 'inactive' at

times, especially when the sailing activities are not occurring. The panel suggests that further consideration / explanation of the landscaping along edge of building to provide some sense of separation between building and adjacent road. Planting should be “wet/coastal” (such as oioi) to reinforce the water edge aspect of the building. Where access is required to the building consider timber decking and how the level change along this edge is handled requires explanation.

Jetty:
The Panel supports the position and orientation of the Jetty. The panel understands that the logistics along the jetty have been resolved (two-way boat traffic, movement / turning of rowing boats) and the absence of gates to the pontoon and proposed jetty is supported.

The Panel supports the approach to balustrading to jetty consistent with coastal walkway (visual light and open, galvanised steel) as a way of differentiating it from the Catalina Bay edge condition and signalling to the general public that it is a public space, accessible to all.

(The ballustrade to the building / ramp might be different (of the building) to reinforce this reading)

Interface with public space:
The Panel applauds the gestures made to link the building and its forecourt to the jetty and public walkway, but is unconvinced that the threshold between the two is successfully resolved. In particular the public should be encouraged onto the jetty (and the Southwest ‘perch’ proposed) and not feel that they are stepping onto or crossing the Marine Centre’s space to do so.

Adjustments could include:

- Extending the alignment of the jetty timber decking right the way back to launch road to better express the lineal quality of the jetty and connection to launch road/coastal promenade. This may also assist in balancing the huge scale of the boat prep decking area;
- Consider extending concrete promenade edge through the proposed jetty to connect publicness of promenade to the corner space, opportunities for seating and perhaps a subsequent key piece of public art would also reinforce the public qualities of this space;
- Ensure dimensions of nib wall and steps to corner space are sized to enable these edges to be used as comfortable perching and seating spaces. This will again ensure this space feels and fulfils a greater sense of publicness.

In addressing this fundamental issue, the following logistics can also be resolved:

- Need for an integrated solution for turning head to launch road in terms of levels and surfacing. May be need to recut levels during design of turning head to tie into Marine Centre designs;
- Define bollard spacing around edge of boat prep areas to ensure there is space for the public to move a private dingy between bollards and out to pontoon.

The panel anticipates that this interface with the public space and the coastal walkway building edge can be dealt with via offline correspondence.

APPENDIX 12
PRE-APPLICATION MEETING MINUTES

Pre-Application Consenting Memo

Pre-Application No. PRR00031871	
Date of request	27/06/19
Applicant	HLC (2017) Ltd
Site address	9 Boundary Road, Hobsonville Point
Proposal	To construct a Marine Sports Recreation Centre (MRC) to the east of Boundary Road and south of the roundabout at the end of Launch Road. The MRC will incorporate the following features: • A two storey building located entirely within the coastal marine area. The ground floor of the building will provide storage for rowing skiffs and sailing boats, as well as bathroom and changing rooms facilities; while the first floor will contain the club rooms including a function room/social area that flows onto a deck that wraps around the northern and eastern sides of the building but within the footprint of the lower floor, meeting rooms, bar / kitchen and bathrooms. The building will be owned by the Hobsonville Point Marine Recreation Centre Trust "The Trust" and will be for the private use of its members. • A deck at ground level on the northern side of the building for use as a boat preparation area, but also accessible to the public. • A jetty, gangway and floating concrete pontoon extending about 70m from the coastal edge to provide water access at all tides. This is proposed to be transferred / vested with Council. Some dredging will also be required.
Plans and information	The following plans were provided prior to the meeting:

Plan Title	Sheet No.	Author	Rev	Dated
Water Access Location Existing Layout	RC01	Tonkin + Taylor	1 (Draft)	June 2019
Water Access Location Proposed Jetty and Pontoon	RC02	Tonkin + Taylor	1 (Draft)	June 2019
Water Access Location Dredging Plan	RC03	Tonkin + Taylor	1 (Draft)	June 2019

Water Access Location Typical Sections	RC04	Tonkin + Taylor	1 (Draft)	June 2019
Marine Sports Recreation Centre Context – Site Plan	-	Strachan Group Architects	Prelim Developed Design	26/06/19
Access & Connections Site Plan	-	Strachan Group Architects	"	26/06/19
Ground Floor Plan	-	Strachan Group Architects	"	26/06/19
First Floor Plan	-	Strachan Group Architects	"	26/06/19
Elevations	-	Strachan Group Architects	"	26/06/19
Elevations	-	Strachan Group Architects	"	26/06/19
Material Palette	-	Strachan Group Architects	"	26/06/19
View from water	-	Strachan Group Architects	"	26/06/19
Main entrance and boat preparation area	-	Strachan Group Architects	"	26/06/19
Cladding detail sketch	-	Strachan Group Architects	"	26/06/19
Jetty - section	-	Strachan Group Architects	"	26/06/19

Figure 1: Aerial photographs of the subject site.

Resource Management Documents		
Auckland Unitary Plan (Operative in part)	Zoning	Coastal - General Coastal Marine Zone Coastal - Marina Zone Open Space - Informal Recreation Zone
	Precinct	Hobsonville Point sub-precinct D
	Overlays	Natural Resources: High-Use Aquifer Management Areas Overlay [rp] - Kumeu Waitemata Aquifer
	Controls	Cable Protection Areas Control [rcp] Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise Macroinvertebrate Community Index – Native and Urban
	Designations	Airspace Restriction Designations - ID 4311, Defence purposes - protection of approach and departure paths (Whenuapai Air Base), Minister of Defence

The Auckland Unitary Plan became 'Operative in part' (AUP(OP)) on 15 November 2016. For the purposes of this pre-application and any resource consent application that may be lodged, the AUP(OP) is the primary planning document that sets out the relevant zoning/overlays applying to the site, and the objectives and policies, rules and assessment criteria guiding development in this location.

Property Information	
Legal Description	LOT 9 DP 511649
Record of Title	This has not been viewed, so there may be easements, building line restrictions and other restrictions that need to be taken into account in preparing any development proposal. If the title is 'limited as to parcels', you may need to get this surveyed, particularly where some of the controls, are reliant on accuracy being insured.
Relevant Consenting History	<u>Regional Coastal Permits</u> Several coastal permits were granted in 2010 (following a public hearing) associated with the development of The Landing / Catalina Bay into a coastal gateway for Hobsonville Point. The permits incorporated the construction, occupation and use of structures including: • A 28m long and 7m wide public deck and 13 visitor berths (Permit 37449); • A 90m long and 3-5m wide ferry wharf (Permit 38179);

	• A 400m long and 3-5m wide boardwalk (Permit 36849); • Tidal stairs occupying an area of 480m² (Permit 37452); • A 44 berth marina (Permit 37456); • A floating 95m long breakwater and 10 permanent superyacht mooring piles (Permit 37463); • A 7.5m wide finishing berth for boat maintenance (Permit 37464); • A 13m wide recreational boat ramp and floating pontoon (Permit 37466). In addition, permits were granted to carry out marina based activities, the disturbance of the foreshore during construction, capital dredging of up to 230,000m³ (Permit 37469), maintenance dredging of up to 2,000m³ annually (Permit 37470), and mangrove vegetation removal over an area of 1.5hectares (Permit 37976). In total there were 21 coastal permits and most of these lapse on the 16 August 2020 and expire on 16 August 2045. There are general conditions applying to all permits while also ones specific to each permit. A detailed description of these is available in the hearing decision document. Only some of these regional permits have been implemented (coastal boardwalk, ferry wharf, mangrove removal and some dredging). It is understood that most permits have been transferred to HLC except for Permit 37455 which relates to the marina berths. <u>BUN60070431</u> On 19 October 2017 resource consent was granted on a non-notified basis to subdivide Catalina Bay into 11 new allotments to facilitate the development of the first stage of this mixed use precinct. This created the subject site as a 752m² recreation reserve. <u>SUB60329282</u> A subdivision consent is currently being processed to create six freehold lots within the Catalina Bay development area (Lot 3 and 5 DP 511649). As part of this application, discussions are underway about the design of the roundabout at the end of Launch Road and the

	adjoining esplanade reserve.
Background	The Westlake Boys Rowing Club is currently located adjacent to the Sunderland hangar building, using this area for the storage of their boats and associated equipment. They also utilise the existing seaplane ramp. Hobsonville Yacht Club also occupies a portion of the north-east corner of Catalina Bay and this occupation includes club rooms and boat storage areas. The Hobsonville Marine Trust oversees the management of these clubs. Due to proposed urban development of Catalina Bay it will be necessary for these activities to be relocated. As this relocation was always envisaged as a result of the transformation of Hobsonville Point from a RNZAF Air Base to a residential community, an agreement was made in October 2009 between the Crown and the Waitakere City Council under the Public Works Act 1991 stating: *"In consideration of the Council acceding to the Crown's requests in relation to the land and road the Crown has agreed that its planning for the development of the area known as the Landing at Hobsonville will take into account the need to establish within the Landing a facility, on land owned by the crown but under community management, which will cater for the needs of a range of water based recreational uses and other community uses. The Crown will work closely with the Council and interested representatives of the community to ensure that an appropriately sized and located facility is an integral part of the Crown's development at the landing. The Crown proposes to make available land for the establishment of a facility with a minimum footprint of 400 square metres that will include provision for boat storage, a lounge/meeting room and a yacht club start tower. The location and configuration of the facility is at the Crown's discretion and subject to the necessary planning approvals and decisions by the Minister of Housing."*

Type	Y	N	Type	Y	N
(Potential) Contaminated Land	☒	☐	Coastal Erosion	☒	☐
Land Instability	☒	☐	Coastal Storm Inundation	☒	☐
Floodplain	☐	☒	Coastal Storm Inundation (plus	☒	☐

			1m sea level rise)		
Overland flow paths (ephemeral/intermittent/permanent stream)	☐	☒	Cultural Heritage Inventory	☒	☐
Flood Sensitive	☐	☒	Combined Network	☐	☒
Arterial Roads	☐	☒	Building Frontage Control	☐	☒
Vehicle Access Restriction Control	☐	☒	Geology (rock breaking)	☐	☒

Meeting Record

Meeting Record	
Date and Time	Monday 29 July, 2019, 10.00am
Council Officers	Michael Treacy (Planner) Nagaraj Prabhakara (Traffic Engineer) Kala Sivaguru (Coastal Specialist) Wendy Zappart (Parks Planner) Maylene Barrett (Parks Planner)
Customer	Erin Taylor (Assistant Development Manager, HLC Ltd) Rachelle Raw (Associate Project Director, HLC Ltd) Nick Grala (Planning Manager, Harrison Grierson) Sam Benson (Planner, Harrison Grierson) Amy Sheppard (Coastal Engineer, Tonkin + Taylor) Aaron Andrew (Representative of the Hobsonville Point Marine Recreation Centre Trust) Greg Jones (Representative of the Hobsonville Point Marine Recreation Centre Trust)

Key considerations

The building and club-rooms

The entire building is proposed to be located within the coastal marine area, which in this particular location has an underlying zone in the AUP(OP) of 'Coastal – General Coastal Marine Area' (CMA). The proposed building and activity is considered to meet the definition of clubrooms for marine-related clubs, and in this zone requires consent as a discretionary activity under rule F2.19.8 (A104).

The purpose of the General Coastal Marine Area zone is to provide for use and development that

have a functional or operational need to be undertaken or located in the coastal marine area. This recognises the finite resource of the coast and its public access and open space values. The objectives and policies reflect this purpose with a strong policy directive to avoid use and occupation of the common marine and coastal area by activities that do not have a functional need to be undertaken below mean high water springs.

While the proposed yachting and rowing club obviously needs to be situated in close proximity to the water, it is questioned whether it actually needs to be located in the coastal marine area. The application will need to clearly demonstrate that:

a) The building needs to be located in the common marine and coastal area and cannot practicably be located on land outside of this area;

b) The building will not conflict with marine activities;

c) Public access to the coast is maintained and amenity values will be enhanced;

d) The building will not compromise natural character and ecological values of the coast;

(See F2.14.2 and F2.14.3 for the full set of objectives and policies).

An application will need to clearly include what the proposed footprint would be in the CMA.

Council has concerns that the proposed building will not be consistent with the relevant objectives and policies on the basis that the building does not have a functional or operational need to be located in the coastal marine area. It seems that the building is being located in the coastal marine area because there is no space on the land to accommodate it, as opposed to any functional requirement that exists. Given the public would also be excluded from the public waterspace, the application may also trigger public notification.

Some of the building will also be located on the adjoining esplanade reserve land and this will require a leasing agreement to be arranged (see further comments below).

The jetty, gangway and pontoon

The proposed jetty, gangway and pontoon will be located in the Coastal – Marina zone. Council's interpretation is that the gangway and pontoon structures fall within the definition of 'Marine and port accessory structures', while the jetty is a 'Marine and port facility'.

In the Coastal – Marina zone, marine and port accessory structures (the gangway and pontoon) are permitted under Rule F3.4.3 (A24), but Marine and port facility structures (the jetty) are discretionary under rule F3.4.3 (A28). Also, as inserted by Plan Change 15 which has immediate legal effect, exclusive occupation of the common marine and coastal area by a structure or activity that would otherwise be permitted is a restricted discretionary activity under rule F3.4.3 (A33). Our

effects assessment is restricted to matters relating to the location, extent, timing and duration of the occupation, including exclusive occupation.

As noted in the background section, a number of regional coastal permits were approved in 2010 for the construction, occupation and use of the coastal marine area for boat mooring. The two permits most closely aligned to what is proposed is Permit 37463 which authorised the construction in, and occupation and use of, the CMA with a 95m breakwater structure and 10 mooring piles; and Permit 37466 which authorised the construction in, and occupation and use of, the CMA with a 13m wide all-tide dual lane recreational boat ramp and floating pontoon to assist with vessel launching and retrieval.

In order for these permits to be utilised (varied under s127) it would need to be demonstrated that the proposed occupation of the CMA covered the same area and location and that the effects will not be materially different. It is considered that despite these permits being similar to what is now proposed, they were associated with quite different activities with different functions and therefore the 'occupation' aspect of the permits is quite different. The size, length and location of the structures are also different from the original proposal. It is therefore considered that a new consent should be applied for, for the construction, occupation and use of the proposed jetty as opposed to varying one of the existing permits.

Despite the above determination, and noting that little detail has been provided about these structures, it is generally considered that they represent an acceptable use and would therefore likely be supported. The ability for the public to access and use these structures is also considered a positive outcome. It should be clarified in an application whether any restrictions on public access or use are proposed (for example fishing off the pontoon).

It is understood that the proposal is for these structures to be transferred / vested with Council. Agreement to this is yet to be confirmed and further information on the design of the structures is necessary before any decision can be made.

Open Deck in the Open Space – Informal Recreation zone

The proposed deck to the north of the building will be located in the Open Space – Informal Recreation zone and also within the esplanade reserve. This zone seeks to enable the land to be used for a variety of outdoor informal recreation activities and community uses and is applied adjacent to coastal areas to provide public access to and along these areas. These open spaces are generally characterised by being open and free of buildings and structures. In this case the deck is considered an appropriate land use as it will provide for public access and enjoyment of the coastal edge. It is also considered that the deck will meet one of the purposes of an esplanade reserve (public access and enjoyment of the coast) and is therefore supported. However there are

some concerns about the potential conflict between public and private use of this deck. For example, will the public be considered a nuisance at times when boats are being prepared launched? How will the public know they can have access to the deck area? There are concerns that the proposal will give rise to a contested space whereby the club occupy and monopolise the space and the public will not feel welcome during times when the club operates.

Interaction with adjoining esplanade reserve

There are concerns the proposed activity will affect the adjoining esplanade reserve and coastal walkway 'Boundary Road'. The current proposal will require boats to be pulled out and transported along the coastal walkway from the sailing storage area to the jetty. While it is accepted that this will not require vehicles, the potential conflict with pedestrians and cyclists is considered unacceptable and will have health and safety implications. The walkway is highly utilised and this will only increase as the Hobsonville Point community continues to grow and develop. It is understood that movement of boats from the storage area will be infrequent and not likely at busy times of the day, however this is not considered adequate mitigation. The boat club will likely become more popular in the future as a result of the new facility and the walkway is also used at all times throughout the day. People should be able to use the walkway without having to negotiate boats.

The delineation of an area of the walkway (via different surface treatment or similar) for boat movement was an idea raised by the applicant at the meeting. However given that the walkway is already quite narrow in this location, the effectiveness of this measure is questioned.

As a result of the above concern, it is recommended that an alternative layout is considered that does not require use of the coastal walkway for the movement and transport of boats.

Lease Agreements

An agreement to lease will be required for any building and structures proposed to be located within the esplanade reserve. The agreement to lease will record the intention of the Tenant to make certain improvements on land and the Landlord's (council's) intention to enter into a lease with the Tenant once certain conditions have been met.

Briefly, an agreement to lease provides a Tenant with a period of time within which to:

1. Finalise its design plans (preliminary plans are normally required, to be assessed by council as landowner);
2. Fundraise, if necessary;
3. Obtain building consent;

4. Obtain resource consent;
5. Obtain final landlord approval (on final design plans); and
6. Construct its improvement.

Normally, depending on the terms of the agreement, the Tenant can expect to receive a formal lease on or after the date on which construction is substantially complete. This event is normally well-defined in the agreement. Please contact Council's Stakeholder and Land Advisory Team for more information on this.

Transport

There are several transport matters that need to be taken into account:

Operation and use of the facility:

- It will need to be demonstrated how vehicles with trailers will be accommodated and how boats will be loaded/unloaded via trailers.
- Boat club activities need to be completely contained within the site itself and not encroach into the road reserve. It therefore needs to be demonstrated that the proposed boat preparation area is large enough.
- It needs to be confirmed there will be no impacts on the transport network when the site is being serviced by waste collection vehicles, delivery vehicles, or other activities that will be required. Delivery and collection zones need to be shown, which will need to be contained within the site.
- No information has been provided regarding lighting. What is envisaged for lighting of the site?

Parking:

- For clubrooms, the AUP(OP) requires a minimum of 0.2 spaces to be provided per person the facility is designed to accommodate.
- Public car parking cannot be depended upon for private land use, with sites expected to provide all required parking within the site itself. Launch Road is already very busy and it is not acceptable to rely on this road to provide the parking.
- It is accepted that the site does not need to provide parking for the public who may wish to use and enjoy the jetty, however parking should be provided for the members and users of the yacht club. Therefore information on maximum occupancy is very important.
- Consideration also needs to be given to situations where the building is hired out for events.
- Launch Road is also still in private ownership (with Panuku) and therefore consultation and engagement with them should be undertaken, in regard to both access and parking.

Trip generation:

- Details need to be provided on the trip generation for the site, number of people who will be using the facility, at what times of day, and how this will be impacting the transport network of the surrounding area. How will the site facilitate the demand it generates for the different proposed uses completely within the site itself?
- Consider trip generation both for day-to-day operations as well as for special events.

Pedestrian movement:

- Safe pedestrian crossing facilities for pedestrians to access this newly created destination are considered crucial. The applicant needs to provide a solution for pedestrians crossing Launch Road and Boundary Road to safely access this site and esplanade reserve. It is understood that this is currently being considered under subdivision application SUB60329282. However that application cannot be relied on to implement the pedestrian solution unless pre-commencement conditions (or similar) are utilised to capture the desired outcome.
- It is understood that the subdivision application may be approved shortly, with the creation of a balance lot where the roundabout is. This will have a consent notice over it requiring a further subdivision once AT's roading needs are determined for the roundabout and pedestrian crossing/connections, and then any balance left over is to be vested as esplanade reserve.

Dredging

It is considered that the existing regional coastal permit for dredging could be utilised for this application. Please note that given historic New Zealand Defence Force activities in the coastal area, there is potential for contaminants to be present as well as military items (such as munitions waste). A contamination investigation will need to be undertaken.

Water and Wastewater Servicing

Little information has been provided to Council in regard to water and wastewater servicing of the building.

Watercare has advised that the ability to accommodate the MRC, from a wastewater perspective, will depend on the proposal for the remaining development of Catalina Bay and surrounding area. This area requires a holistic approach to all of the remaining Hobsonville development work and how the service capacity is allocated.

An infrastructure report will be required.

Stormwater

The infrastructure report will need to assess stormwater matters. Please ensure that any proposed outfall is located in a position that takes into account coastal inundation and sea level rise.

Building Design

Given the visual prominence of the site from the water and its location adjacent to the coastal walkway, the building will need to represent a high quality design that integrates with the surrounding area. An urban design statement and visual impact assessment should be provided to assess the design. All new buildings in Hobsonville Point also need to get approval from the Hobsonville Design Review Panel (HDRP). It is understood that this is underway, and evidence of final approval needs to be included with the application.

Iwi Engagement

There are duties to consider under the Marine and Coastal Area (Takutai Moana) Act 2011 (MACA). This created a no-ownership regime over the marine and coastal area and introduced mechanisms to recognise customary rights of Māori in that area. These mechanisms include "protected customary rights" (PCRs) and "customary marine title" (CMT). Iwi, hapū and whānau can apply to have PCRs or CMT recognised either through High Court proceedings or by engaging directly with the Crown.

An application for resource consent in the common marine and coastal area requires the applicant to notify and seek the views of any group that has applied for recognition of CMT in that area (see MACA section 9).

Section 62 of the MACA requires any applicant for resource consent to notify and seek the views of an applicant for CMT in the relevant area, **before** the resource application is lodged. Auckland Council requests that evidence of this is provided with these resource consent applications.

Separate to this is the need to engage with iwi so that the effects of the proposal on mana whenua values can be understood and assessed. It is understood that engagement is currently being undertaken. Evidence of this will need to be provided. Alternatively, Council's Iwi Facilitation Service could be utilised once the application is lodged.

An assessment of the effects of the development on the statutory acknowledgement area associated with the CMA should also be provided.

Additional Matters to Consider regarding the proposed works

- The application should clearly provide the information on related existing consents (what

consents have already been given effect to, what are the consents that will be surrendered, are any existing consents being relied on for the new application, who is the consent holder for the area covered by the new application, who would be responsible for the maintenance of the structures if the consent holder is different from the existing consent. For example, if dredging for water access structures are to be undertaken in accordance with existing capital/maintenance dredging consent.

- The application needs to clearly state what is being applied for - construction 12(1), occupation 12(2) & use 12(3).
- Coastal applications should include the effects on landscape, natural character, visual/amenity, coastal processes, coastal ecology, public access, existing users, navigation.
- If the construction methodology involves impact / vibratory piling for any of the structures proposed then an underwater noise assessment will be required in accordance with rule F2.19.8 (A114).
- Whether temporary structures will be located in the CMA to facilitate construction.
- Consultation with the Harbour Master will need to be undertaken. This is to confirm that the proposal will not present a navigational safety hazard.
- A geotechnical report will be required.
- An acoustic assessment may be required to assess noise effects associated with the use and operation of the clubroom, especially if evening events are possible.
- Local Board Engagement. Please note, a 'Water Access Study' is currently being undertaken and is almost concluded, with the findings to be presented to the September Upper Harbour Local Board meeting. The purpose of the study was to identify opportunities to increase access to and utilisation of the marine areas within the Upper Harbour Local Board area for sport and recreation. It is understood that the findings of the study will highlight Hobsonville Point as being a strategic location for water access and that there is a current gap in providing for this. The findings of the study will be publicly available in September. It is likely though that it will provide additional support for the jetty and pontoon structures.
- This application needs to integrate and tie in with other applications that are being processed concurrently in the area to ensure that the designs to not adversely impact one another.

Preliminary conclusion on outcome

Notwithstanding any possible design changes, it is considered that the occupation and use of the coastal marine area for the proposed clubroom building will not be consistent with the objectives and policies of the General Coastal Marine Area and will result in more than minor adverse effects on the environment. Council is not likely to support the application and public notification is also

considered to be a likely outcome.

While it is considered that while the proposal represents a high quality design that would provide a great facility to the yacht and rowing clubs, there are concerns with the location of the building in the CMA and the functional need to be there, its interaction with the adjoining esplanade reserve, and the lack of on-site parking for members. The jetty and land-based deck are generally supported given the ability to improve public access to the coast.

The statutory timeframes for publicly notified consents is 130 working days, but to speed up the process, the applicant may wish to lodge the application on a publicly notified basis. This is recommended.

Information to support application	
Completed Application Form & Checklists	You will need to gather together the relevant information and complete the relevant Auckland Council application form(s). Applications form and the information you need to provide with your application are available from our service centres or can be found here. You can now also apply online. This will save time and printing costs and you can track the progress of your application. Please remember to include this checklist with your application.
All Plans	All plans are drawn at 1:100 or 1:200 scale and show a north point, boundary dimensions and bearings, adjoining legal descriptions, street numbers and metric scale bars, datum point, site contours including spot levels on the relevant boundaries. A guidance note has been produced to what information needs to be shown on your plans.
Assessment of Environmental Effects (AEE)	This is a statement assessing the actual and/or potential effects on the environment of a proposed activity. A guidance note has been produced on how to prepare an AEE.
Specialist Assessments	You may need to provide written specialist report(s) to support your application, depending on the scale and significance of your proposal. As described above, in this case the following is considered necessary: • Infrastructure Report; • Contamination report • Geotechnical Report; • Traffic and Parking Impact Assessment report;

	• Ecological Report; • Visual Impact Assessment; • Acoustic report.

Resource Consent Strategy	
Lodging your resource consent	To obtain a resource consent, you must make an application to council. To avoid delays in processing your application you should: • Make sure your application is complete in full (including all plans and technical documents. • Engage a professional (architect or consultant) to prepare your application as it can be technical.
Processing Costs	A deposit will be charged when you lodge your application. This deposit will depend on the nature of the project. The deposit calculator gives an estimate of the deposit required. We will assess the total fees payable once your application has been approved. If the total fees payable are more than the deposit paid, you'll need to pay the balance, otherwise you will be given a refund. Interim invoices may also be issued for larger projects if processing fees exceed the initial deposit or additional costs are incurred. In some cases we may require a higher deposit to be paid. If this is the case we will advise you once the application has been submitted.

General Information	
Auckland Design Manual	The Auckland Design Manual (ADM) provides a resource for everyone involved in design, building and development to either share their great design stories with others, or to seek inspiration, tools and best practice advice from those who have already been successful. Auckland's planning rulebook, the Auckland Unitary Plan will articulate the rules for the future growth, whilst the ADM illustrates how to achieve the quality outcomes sought by the AUP (OP).
Development Contributions	Development contributions are the fees charged by the council for extra community and network infrastructure needed as a result of development projects. You will pay development contributions for residential and commercial development such as new houses, and subdivisions. The money collected from development contributions pays for the cost of public infrastructure that is needed to meet the additional demand from

	growth. This includes network infrastructure such as stormwater and transport, open space reserves and community facilities. To get an indication of the contribution please use the Development Contributions Estimator. Water supply and wastewater services are not included in the Development Contribution. This is covered in the infrastructure growth charge. This charge is administered by Watercare.

Important Information

The purpose of a pre-application is to facilitate communication between applicants and the council so that the applicant can make informed decisions about applying for consents, permits or licences.

The views expressed by council staff in or following a pre-application are those officers' preliminary views, made in good faith, on the applicant's proposal. The council makes no warranty, express or implied, nor assumes any legal liability or responsibility for the accuracy, correctness, completeness or use of any information or views communicated as part of the pre-application process.

The applicant is not required to amend their proposal to accommodate the views expressed by council staff. Further, it remains the applicant's responsibility to get their own professional advice when making an application for consents, permits or licences, and to rely solely on that advice, in making any application for consents, permits or licences.

To the extent permissible by law, the council expressly disclaims any liability to the applicant (under the theory of law including negligence) in relation to the pre-application process. The applicant also recognises that any information it provides to the council may be required to be disclosed under the Local Government Official Information and Meetings Act 1987 (unless there is good reason to withhold the information under that act).

All consent applications become public information once lodged with council. Please note that council compiles, on a weekly basis, summaries of lodged resource consent applications and distributes these summaries to all local boards and all mana whenua groups in the Auckland region. Local boards and mana whenua groups then have an opportunity to seek further details of applications and provide comment for council to take into account.

Prepared by:
Name: Michael Treacy

Title: Senior Planner, Resource Consents

Signed: 

Date: 15/08/19

Reviewed by:

Name: Samantha Redward

Title: Team Leader, Resource Consents

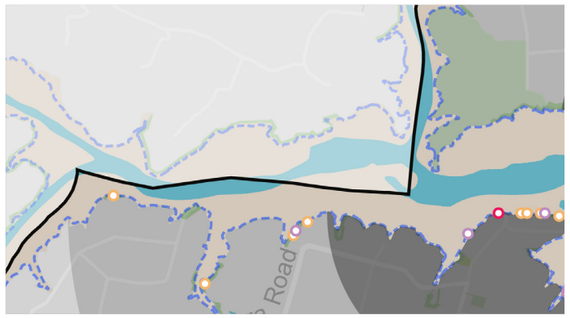
Signed: 

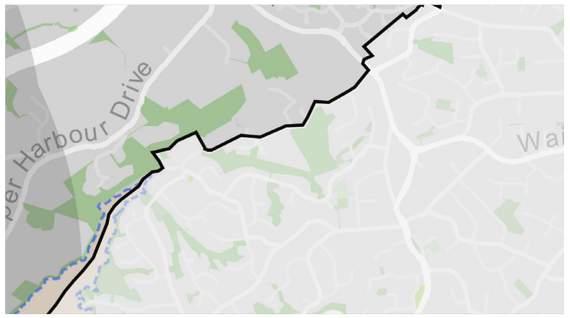
Date: 15/08/19

APPENDIX 13
UPPER HARBOUR LOCAL BOARD – WATER ACCESS ASSESSMENT

WATER ACCESS ASSESSMENT

UPPER HARBOUR LOCAL BOARD, AUCKLAND





NETWORK STUDY

September 2019

bespoke
LANDSCAPE ARCHITECTS

Auckland Council
Te Kaunihera o Tāmaki Makaurau

TABLE OF CONTENTS

bespoke
LANDSCAPE ARCHITECTS

Auckland Council
Te Kaunihera o Tāmaki Makaurau

ASSESSMENT PARAMETERS

INTRODUCTION

Recreational use of coastal and inland waters of the Waitemata Harbour provides significant benefits to social, environmental and the economic, wellbeing of the region. It is also well documented that access to the water and provision of a fit-for-purpose network of facilities fosters health, wellbeing and an appreciation of the natural environment. Participation is also encouraged by providing a range of affordable and accessible options to encourage participation in diverse communities.

The 2017 Upper Harbour Local Board Plan identifies the importance of open space and connectivity and provision of access to the water in providing opportunities for social connections and participation in recreational and cultural activities for a range of ages and abilities.

Given the challenges associated with providing valuable water access for the public within fiscal constraints, this report builds on several related existing studies and the Upper Harbour Local Board's intent to establish an holistic understanding of existing water access provision and opportunities to inform investment decisions within the upper harbour study area.

UPPER HARBOUR STUDY AREA

The Upper Harbour Local Board area is located in the upper reaches of the Waitemata Harbour and is comprised of the coastal and inland suburbs of Whenuapai, Herald Island and Hobsonville in the west, and Paremoremo, Greenhithe, Albany, Rosedale, Unsworth and Pinehill in the east.

The study area is defined as the coastal and marine areas within the Upper Harbour Local Board area. The estuarine area is characterised by extensive tidal mudflats and inlets that experience significant tidal fluctuations. This tidal fluctuation limits water access from mid – high tide for the majority of existing network structures.

Water based activity typologies present in the area range from swimming and paddle craft activities, to fishing, sailing and motorised recreational watersports. Current infrastructure provision types range from small private structures, to public and club operated facilities.

There are obvious gaps in geographical provision due to topography and absence of suitable reserves in some areas, with the developing Hobsonville and Whenuapai areas requiring specific consideration to address baseline provision.

Refer Study Area Map on Page 02.

PURPOSE

The purpose of this study is to assess current water access provision for sport and recreation at a network level to establish a holistic understanding of relationships between:

- Current facility distribution and associated catchment level of service
- Activity type and related enabling infrastructure provision
- Limitations of existing provision including but not limited to tidal access, aged infrastructure, topographical and carparking constraints, and how these restrict use
- Anticipated demand based on current population density and forecast growth areas

Then, through mapping and analysis, identify:

- Geographical gaps or over supply in water access provision
- Relationships between facilities and activities, and high-level opportunities to improve network functionality and / or flexibility of use
- Areas of forecast population growth as they relate to gaps or over supply in network provision and perceived future demand on infrastructure
- Potential options to increase access to, and utilisation of the marine area for sport and recreation including upgrade of existing, or provision of new facilities to address network gaps

Followed by on site ground truthing of public assets and the provision of recommendations on network improvements to address gaps, and enable the local board to make informed decisions on water access development priorities.

POLICY CONTEXT

Several documents have informed the development of this report and relevant strategies, plans and policies considered to ensure alignment where applicable.

Key documents include:

- The Auckland Plan 2050 (2018)
- Auckland Council Parks and Open Space Strategic Action Plan 2013
- Auckland Council Open Space Provision Policy 2016
- Upper Harbour Local Board Plan 2017
- DRAFT Upper Harbour Open Space Network Plan MARCH 2018
- Sport and Recreation in the Lives of Young Aucklanders Upper Harbour Local Board Area Report (2013)
- Auckland Sport and Recreation Action Plan 2014 - 2024 (2017 Refresh)

Refer to Appendix C Bibliography for additional research references.

SCOPE AND LIMITATIONS

The following outlines scope and associated limitations associated with this water access provision assessment:

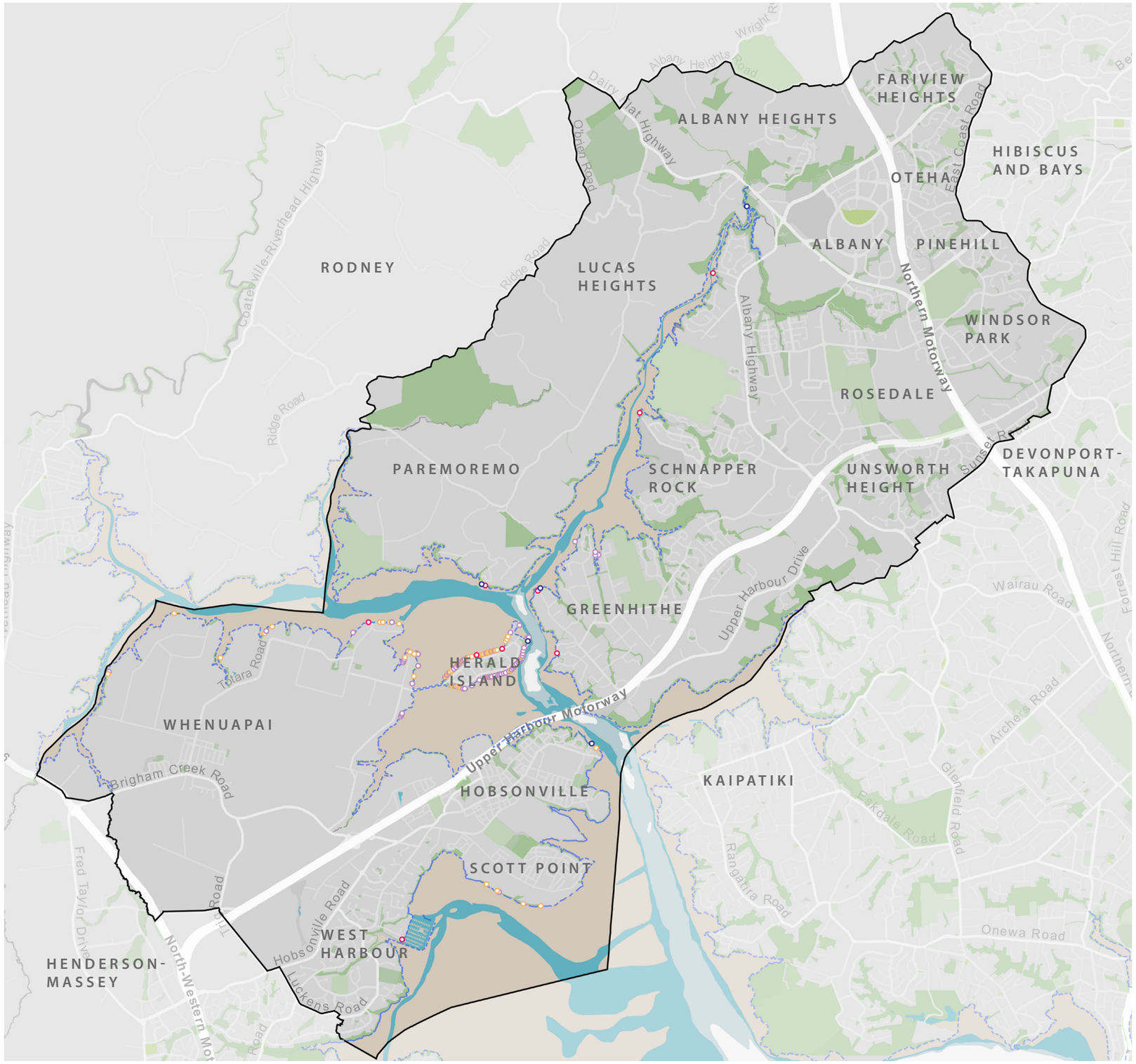
- High level pedestrian radial catchment analysis provides an acceptable level of information to enable gap analysis assessment in the absence of identifying actual measured walking distances / 'pedsheds', though it is acknowledged that assessment of walking distances is indicative, with related topographical and physical constraints considered at a high level only.
- In order to alleviate bias in evaluation and provide opportunities for debate and creative discussion, assessments were moderated and discussed by two team members to agree appropriate assessment and recommended priority.
- Priority assessment is based on a high-level perception of water access infrastructure and perceived contribution to the network as a whole.
- Unless council asset registers supplied provided a specific condition rating, commentary on asset condition relates to visual inspection of facilities only and further structural assessment may be required in some instanced to validate
- Community / user group consultation was not conducted in the preparation of this report. Future investigation and consultation, particularly with local community, will be required to inform design and implementation of renewals and / or new facilities.
- Schools have been indicated on the maps to provide a general understanding of the relationship between water access provision, proximity and opportunities to improve access for activities and youth engagement with the water.
- Specific in-depth analysis of club facilities, requirements and the feasibility of co locating user groups does not form part of this scope. This report does however consider the nature of infrastructure required to enable specific activity types and commentary has been provided on this basis.
- This document identifies opportunities to improve water access infrastructure and is not intended to serve as a detailed feasibility analysis. Further investigation will be required to assess the feasibility of identified development opportunities.
- Data collection is largely quantitative from a network planning perspective with limited qualitative assessment of facilities based on site assessment. Where applicable, high level commentary is provided to address gaps and inform potential investment.
- Accurately evaluating the extent of participation of water based activities and provision of appropriate infrastructure is complex, as participants are often engaged in varied and independent recreation making the recording of information and associated demand difficult to measure. This report therefore focuses on the review of population growth data from the Transport Modelling Population Projection (previously ART model) , projected age distribution (Census data) and relationship with current available participation and ethnic data to establish perceived demand on facilities in relation to activity types and geographic distribution.

METHODOLOGY

ASSESSMENT PROCESS

Assessment to establish gaps in water access provision and prioritise investment opportunities at a network level is as follows:

- Prepare Network Prioritisation Principles, Catchment Assessment Parameters and Data Capture Spreadsheet to inform overall network assessment and recommendations.
- Collect raw data and record information on data capture spreadsheets.
- Collate raw data and prepare maps to articulate:
  + Existing facility and activity provision
  + Gaps in provision and relationships between individual facilities.
- Prepare population analysis maps addressing current and projected population trends and changes in population density. Cross reference against Census data to provide an understanding of age distribution relationships and potential demand for activity types.
- Undertake analysis of water access relationships at a network level, evaluating data to rationalise geographic provision and communicate options for network optimisation.



STUDY AREA MAP

- Following background research and network assessment, conduct targeted site investigations of public assets and sites with the potential address network gaps to assess facilities, immediate site context, sensitivities, and development potential.
- Prepare Network Development Opportunities Table and Priority Map with concise recommendations and commentary, moderating recommendations where necessary to accurately reflect network requirements and priorities.

KEY NETWORK PRIORITISATION PRINCIPLES

All water access facilities will be assessed using key principles to determine network priorities (high, medium or low).

Where appropriate, brief commentary on priority considerations and development options from a network-perspective will be included within the data capture spreadsheet and / or study synopsis.

Key prioritisation principles are as follows:

Network Provision

- New or existing facilities that, through investment, are able to address significant network provision gaps or improve synergies with adjacent facilities shall generally have higher priority than those with limited opportunity to contribute positively towards balanced and appropriate network provision.
- Where significant catchment overlap exists, facility clusters may be considered for optimisation or complementary facility development as part of a holistic review of network provision.

Location and Access

- Facilities that are well-connected, close to complementary activities and / or are easily accessible from residential areas shall have higher priority than those not located near residential and community amenities. In this regard, barriers to access and connectivity shall be considered to ensure appropriate prioritisation of facilities.

Activity Provision

- Facilities with potential to address significant activity gaps or perceived user group conflicts shall be prioritized over those that do not.

Population

- Facilities located within population growth areas shall generally have higher priority than those within limited growth areas.

CATCHMENT ASSESSMENT PARAMETERS

Based on review of empirical research that investigates the theory behind traveling distances and access relationships, the following catchment provisions have been adopted to assess high level gaps in network provision:

Vehicular Access

- A 4km distance (or 5 – 10min max. drive @ 50km / hr). This equates to a radial proxy assessment radius of 2.8km

- This assessment parameter is aimed at assessing provision for activity types that require the use of vehicles for transportation of equipment.

Pedestrian Access (Suburb Level)

- A 1500m distance (or approx. 15 min walk @ 5km / hr). This equates to a radial proxy assessment radius of 1125m.
- This parameter is aimed at assessing provision for those participating in non-equipment related activities, or those that may not have access to vehicular transport.

It is important to note that pedestrian access distances sit independent of relationships with open space / water access typologies and represent global thinking on acceptable traveling distances as they relate to the travel / time accessibility of public destinations.

ACTIVITY ASSESSMENT PARAMETERS

Determining the suitability of facilities and locations for water based activity types has been assessed in relation to:

- Facility Provision (that supports the activity); including complementary relationships with open space and amenities.
- Environmental factors; including tidal access restrictions, user group conflicts ecological sensitivities and the like.
- Route Synergies: including facilitating on water route and open space connectivity.

Where available, information from clubs, associations, guideline publications and the like have been reviewed to establish and reinforce suitability of locations and facilities for activity types.

Population and Distribution / Highlighted Growth Areas

Population density and growth has also been mapped to clearly articulate water access provision relative to projected growth areas (and potential investment focus). Refer Appendix B for Population Density and Growth Maps.

PRIORITY ASSESSMENT AND RECOMMENDATIONS

As outlined above, water access and network relationships have been assessed against Key Network Prioritisation Principles to determine high, medium or low development priority. Where appropriate, brief commentary on priority considerations and development options from a network perspective has been included. Refer Development Recommendations section and Data Capture Spreadsheet in Appendix A for additional information.

Commentary also considers gaps in activity provision where improvement in infrastructure may provide additional flexibility of use and enable a wider range of user groups to use facilities.

Network Development Opportunities Table

The Network Development Opportunities Table groups key high and medium priority sites and graphically summarises network opportunities to enable an holistic comparison of key network improvements.

Network Development Priority Map

The Network Development Priority Map identifies the geographic location of sites identified for improvement in the ***Network Development Opportunities Table***, relative priority and proposed locations of new sites to address network gaps where applicable.

CURRENT NETWORK

EXISTING PROVISION

Characterised by estuarine coastline with extensive tidal mudflats and inlets, we reiterate that the majority of the upper harbour catchment experiences significant tidal restrictions to access, with the majority of sites providing access at mid – high tide

Statements around good geographic provision therefore relate to catchment coverage and the provision of access to the water at high tide. Refer to current infrastructure, facilities and activities maps, and Appendix A Data Capture Spreadsheet for location and additional contextual information.

The following summarises the current provision of publicly accessible and private facilities within the Upper Harbour Local Board area:

PUBLIC FACILITIES

West Harbour

- Has 1 public boat ramp and pontoon facility in good condition with dedicated carpark at termination of Clearwater Cove in association with Ferry terminal and Hobsonville Marina.
- This facility is a fit for purpose launching ramp for motorised craft though inherently provides for other activities due to all tide access and narrow pontoon structure.
- The facility provides good catchment provision to the West Harbour area and vehicular catchment overlap with lower Hobsonville / Scott Point. Supplementary access to the south at Luckens Reserve and associated West Harbour Esplanade would improve provision at a local, pedestrian level.
- It is noted that access in the Limeburner Bay area is restricted by mangroves and shallow mudflat coastal interface, with a legacy inlet to the historic Limeburner Reserve site providing for potential high tide water access in this location.

Hobsonville

- Has no public facilities listed on current asset register supplied, though Auckland Council holds the coastal permit for the boardwalk from Catalina Bay to Marine Parade and the majority of this access is now vested with council.
- The boardwalk facility is in good condition and provides for coastal access and rest / stop off points between destinations at high tide, but the structure is not fit for purpose in accommodating land based access for launching paddle craft.
- The existing Hobsonville seaplane ramp coastal permit is held by the Home Land and Community (HLC) company and is effectively a private asset that is open to the public. The ramp is also used by several clubs but the asset is nearing the end of its lifecycle and renewal is required to maintain access to the water for the full tidal cycle.
- Residential development is planned for the sites currently occupied by sailing / rowing clubs. Without the provision of long term water access or ability to store equipment these activities would likely be faced with relocation.
- Apart from partial vehicular catchment overlap with Hobsonville Marina, geographic catchment coverage in the Hobsonville, Scott Point and Limeburner Bay areas is poor due to the absence of flexible, fit for purpose public facilities and it is noted that the Catalina Bay area is one of six sites in the upper harbour area that provide water access for the full tide cycle.
- It is acknowledged however that Auckland Council is currently working with HLC to lodge resource consent for a Marine Recreation Centre at Catalina Bay which includes a jetty and pontoon to replace the seaplane ramp and provide deep water access.

Whenuapai

- Has 1 public boat ramp facility located at termination of Pohutakawa Road. All structures are in good working condition apart from timber stair access to small open space area that requires renewal.
- The ramp and associated open space provides for coastal access and rest / stop off points between destinations at high tide.
- There is no dedicated parking with limited space to provide formal car or trailer parking on side of road.
- Geographic catchment coverage in the Whenuapai area is poor due to the absence of flexible, fit for purpose public facilities, particularly in the west - northwest noting that there is potential to provide water access for the full tide cycle at Riverlea Reserve depending upon length of structure.
- It is acknowledged that the area is currently has a very low population density with significant area occupied by the Whenuapai RNZAF Air base.

Herald Island

- Has 3 public facilities including:
  + 1 beach ramp in average working condition on Christmas Beach at No. 86 The Terrace within grassed open space adjacent existing playground facility.
  + 1 boat ramp in good condition on Landing Reserve at No. 56 The Terrace with dedicated, unsealed carpark
  + 1 wharf and associated pontoon in good working condition on Pahiki Reserve at No. 3 Twin Wharf Road
- 1 short wharf associated with No. 90 The Terrace appears to be publicly accessible but is under private ownership.
- All facilities are serviced by on road or dedicated car parking, though space is limited at Twin Wharf Road and Christmas beach provides limited on road parking access only.
- Pahiki Reserve facilities provide shelter, seating, public toilets and water access for the full tidal cycle, with other facilities providing functional access at high tide only.
- Herald Island has good geographic provision with significant overlapping catchment of existing facilities with no gaps in public provision

Greenhithe

- Has 3 public facilities including:
  + 1 boat ramp in average condition on Rame Reserve
  + 1 wharf and associated pontoon in good condition on Rame Reserve
  + 1 boat ramp in average condition on Rahui Reserve
- The boat ramp at Rame Reserve is a legacy single structure with split public / private (Salthouse Boatbuilders) access physically separated by an open chain link fence that requires consideration to improve amenity and legibility.
- The wharf and pontoon structure are fit for purpose launching facilities for rowing, canoeing and similar paddle craft, though inherently accommodate other activities due to the nature of structures and the provision of water access for the full tidal cycle.
- Rame Reserve facilities also include a storage facility currently occupied by the North Shore Rowing Club, a Panuku Development dinghy locker, seating and public toilets.
- Rahui Reserve facilities include public toilets and a small single level building currently occupied by Tauhinu Sea Scout Group. The ramp provides direct water access at high tide only.
- All facilities are serviced by on road or dedicated car parking, though space for expansion is limited at Rame Reserve and Rahui Reserve provides limited on road parking access only.
- There are conservation, tidal and steep escarpment constraints to the south eastern inlet and Lady Phoenix Reserve area that likely preclude the development of meaningful facilities along this coastal interface.
- In considering the physical and environmental constraints, current facilities provide an acceptable level of geographic provision in so far as practical with minor gaps, primarily at pedestrian / non-vehicular access level.

Schnapper Rocks

- There is 1 public boat ramp facility listed on Wharepapa Reserve at No. 286 Schnapper Rock Road. However, this facility no longer exists and was likely removed due to its poor condition status.
- There is potential to provide water access from mid - high tide in this location depending upon the length of structure.
- A geographic gap therefore exists in the Schnapper Rocks area due to the absence of a facility at Wharepapa Reserve. The provision of water access at Wharepapa Reserve would however provide good geographic provision with limited catchment overlap with other facilities.
- There are conservation, tidal and steep escarpment constraints to the southern inlet and Lady Phoenix Reserve that likely preclude the development of meaningful facilities along this coastal interface.

Albany and Albany Heights

- Has 2 public facilities including:
  + 1 boat ramp in good condition on Wharf Reserve at No. 29 Wharf Road
  + 1 short wharf / platform in good working condition on Kell Park at No. 257 Dairy Flat Highway
- The structure on Wharf Reserve is a fit for purpose boat launching facility with access to the water at low-mid tide onwards due to the proximity of current water channel. There is potential to provide improved infrastructure to access the water at low tide, particularly for recreational paddling craft.
- The Wharf Road facility also has an appropriate turning area with limited on road parking access. It is noted however that the ability to launch

motorised craft is precluded by bollards and capacity to formalise or expand car parking is limited.
- The Kell Park facility provides for coastal access and rest / stop off points between destinations at high tide, but the structure is not fit for purpose in accommodating land based access for launching paddle craft due to multiple stair transitions and notable physical separation from car parking facilities. It does however provide a structure that enables interaction with the water in association with experiential boardwalk and play facilities.
- In considering the physical constraints, current facilities provide an acceptable level of geographic provision in so far as practical.

Lucas Heights

- Has 0 public facilities and it is noted that there are conservation, tidal and steep escarpment constraints to the eastern inlet that likely preclude the development of meaningful facilities along this coastal interface.

Paremoremo

- Has 1 wharf and associated boat ramp in average working condition on Attwood reserve at No. 138 Attwood Road.
- The facility provides shelter, seating, water access for the full tidal cycle and is a notable rest / stop off point between destinations given the absence of other facilities in the area.
- There is potential to provide improved infrastructure to access the water at low tide, particularly for recreational paddling craft.
- The facility also has limited on road parking, though space is constrained with little capacity for improvement.
- Geographic catchment coverage in the Paremoremo area is average due to the absence of flexible, fit for purpose public facilities to the west and east of Attwood Reserve. It is acknowledged however that this is largely due to physical and environmental constraints associated with conservation areas, tidal restrictions and steep escarpments that likely preclude the development of meaningful facilities along the coastal interface.
- It is noted that there is potential to provide water access at Sanders Reserve. The cost and complexity of providing land based launching and / or access at all tides would be considerable however, and options providing better access at mid - high tide would likely provide better value for investment.
- In considering the physical constraints, the provision of water access at Sanders Reserve would however provide good geographic provision in so far as practical with limited catchment overlap with Attwood Reserve facilities.

PRIVATE FACILITIES

West Harbour

- Has 592 private berths, boat ramp launching facilities, car parking and ancillary amenities associated with Hobsonville (West Harbour) Marina. Potential redevelopment of the marina proposes expansion and the provision of improved public access and better connectivity with parking, bus and ferry services.
- There are no individual structures associated with private residential lots in this area

Hobsonville

- Although publicly accessible, all facilities (apart from the public boardwalk) in the Catalina Bay area are private. These include the existing seaplane ramp (with permit currently held by HLC), Westlake Boys High School Rowing Club storage, TS Bellona Navy Sea Cadet Corps and Hobsonville Yacht Club facilities.
- It is re iterated that the seaplane / boat ramp structure is nearing the end of its functional lifecycle and requires renewal to maintain craft launching access in this area.
- There are localised private structures in the southern Scott Point / Limeburners Bay area, with no known facilities in the tidal Bomb Bay or Nimrod Inlet areas.

Whenuapai

- There are several private structures in the north eastern Whenuapai area. These are primarily located on the small headland adjacent the Herald Island causeway
- Other private structures, though limited due to the nature of land ownership, are relatively evenly distributed along the Kotukutuku Inlet. Several of these structures are not captured on council asset registers.

Herald Island

- Has extensive private lot access with a range of wharf and ramp structures along the coastal interface.
- Herald island boating club at Twin Wharf Road is a private facility with pontoon and paddle craft storage area that shares access with public water access provision.

Greenhithe

- Salthouse Boatbuilders is a private wharf and ramp launching facility with an open chain link fence that separates public and private activities.
- There are several private structures in the northern Greenhithe area. These are primarily located on the headland to the east of Wainoni Park.

Schnapper Rocks

- There are no individual structures associated with private facilities in this area.

Albany and Albany Heights

- There are no individual structures associated with private facilities in this area.

Lucas Heights

- There are no individual structures associated with private facilities in this area.

Paremoremo

- There are no individual structures associated with private facilities listed on council asset registers in this area. There are however several non listed private structures that provide private access to the water in this area.

NETWORK ACTIVITIES

The following outlines key activities accommodated within the upper harbour area with commentary on level of provision in relation to facilities and geographic distribution.

Rowing and Canoeing

Rowing and canoeing require fit for purpose facilities and typically this includes the provision of pontoon structures for launching, and sheltered, unobstructed straight stretches of water up to 2km in length to enable meaningful training and competition. The ability to store gear is also fundamental to effective access and operation.

The are two network facilities currently in operation:

Rame Reserve (Greenhithe Wharf and pontoon)

- Existing facilities at Rame Reserve are appropriately located within the upper harbour area and provide good baseline access to the water for rowing (including the North Shore Rowing Club) and canoeing activities. There are however complexities to improving facilities with spatial restrictions limiting potential expansion and operational improvements in Lucas Creek itself.
- This requires further investigation noting that several potential steps to improve facility functionality were identified in the ARPASS Paddling and Rowing Study 2007.

Catalina Bay (legacy sea plane access ramp.)

- This ramp with craft storage facilities in close proximity currently provides launching access for the Westlake Boys High School Rowing Club, TS Bellona Navy Sea Cadet Corps and Hobsonville Yacht Club.
- However, it is noted that future residential development plan will displace the Westlake Boys High School Rowing Club and Hobsonville Yacht Club and the unknown future of the deteriorating ramp may result in the loss of facilities in this location.
- If a Marine Recreation Centre facility was unable to be built, the loss of this asset would leave a significant gap in the provision of strategic network facilities in the Hobsonville area.

Recreational Canoeing / Sea Kayaking and Paddle Craft

Although fit for purpose pontoon type facilities are preferred, the majority of recreational users are satisfied with boat ramp, and to a lesser extent wharf structures that provide for improved access. In considering this:

- Facilities at Hobsonville Marina, Rame Reserve and Herald Island provide fit for purpose facilities and good water access for paddling craft.
- Boat ramp and / or wharf facilities that enable craft access to a lesser standard are also provided at Catalina Bay, Attwood, Ranui, and Waimari Reserves.
- Key network gaps in access and connectivity exist in the western Whenuapai (Riverlea Reserve) and Paremoremo (Sanders Reserve) areas.

Fishing

Land based recreational fishing does not require specific structures though the provision of wharf type facilities typically provide a safer and more comfortable experience for a wider range of users. In considering this:

- Geographic land based access for fishing is generally well distributed for across the network via wharf, pontoon and related boardwalk / structures.
- The provision of facilities that address explicit gaps in Public Facilities would ensure that safe access for a wide range of user groups is provided in all suburban catchment areas.

Swimming

Due to the tidal nature of the upper harbour area access to the water for recreational swimming is largely restricted to 1-2 hours either side of high tide. In this regard it is noted that:

- Formal and informal access is afforded at all key reserves.
- Addressing identified geographical gaps and implementing network improvements should also give consideration to improving user experience and safety from a swimming perspective.

Boating

Boating activities including power, sail, and dinghy typologies require fit for purpose facilities. Typically this includes the provision of ramps for launching and areas for parking as a baseline minimum, with additional structures and supporting amenities like toilets provided based on association with club facilities and / or a higher frequency of use. All tide access is preferred but not essential. In considering this:

- Other than explicit gaps in Public Facility provision identified above, power, sail and shallow drawing boating is appropriately located and well distributed across the network, with access provided via boat ramp launching facilities and several stop off wharf and pontoon structures.
- All facilities have tidal restrictions apart from Attwood, Catalina Bay (Private), Hobsonville Marina, Rame and Wharf Reserves. There is potential to improve access for the full tidal cycle at Riverlea Reserve in Whenuapai and addressing geographical gaps in the Hobsonville area requires further investigation.
- Spatial and physical constraints associated with improving car / trailer parking is perceived as the most limiting factor to access, use and catchment capacity.
- If not already accommodated, access to potable water and toilet facilities should also be considered in areas set to experience population growth.

Skiing and Wakeboarding

The Paremoremo Creek is a recognised area under Auckland Transport safety bylaws as reserved for water skiing, wakeboarding and towing sea biscuits.

Physical facilities enabling power boat access are identified in Boating above.

NETWORK GAP SUMMARY

GEOGRAPHIC GAPS

The mapping of existing facilities indicates there are geographic gaps in the following areas:

- Lower West Harbour (Luckens Reserve / West Harbour Esplanade)
- Hobsonville (Bomb, Catalina, Limeburners Bay and Nimrod Inlet)
- West / northwest Whenuapai (Riverlea Reserve)
- Paremoremo (Sanders Reserve)

With ability to address gaps in the following areas limited by conservation, tidal and steep escarpment constraints

- South East Greenhithe
- South Schnapper Rocks
- Lucas Heights

Refer Development Recommendations section for additional commentary and opportunities to improve water access in the upper harbour area.

ACTIVITY GAPS

Currently, the location of facilities and different user groups within the upper harbour area is complementary and conflicts of use largely minimised by regulation and location of facilities themselves.

Most activities are accommodated across the network via structures and / or general provision of access, though significant gaps in provision exist in the Hobsonville and western Whenuapai areas due to a lack of formal, public facilities.

POPULATION DYNAMICS

GROWTH AND DENSITY

Population growth data from the Transport Modelling Population Projection has been used to obtain an understanding of population growth and density projection in relation to water access provision.

Based on review and mapping of the above, the following areas are projected to experience significant population growth and increase in density:

- Albany
- Hobsonville
- Whenuapai
- West Harbour (Northern)

Remaining areas within the Upper Harbour catchment are projected to experience minor or neutral / negative population growth.

AGE AND INCOME (CENSUS 2013)

Legacy Census data indicates that:

- 89.5% of the upper harbour population are pre-retirement age (<65) with a median household income of $89K which was the second highest in Auckland at the time.
- The median age in the upper harbour area was 36 with 69.8% of the population aged between 15 and 64.
- Ethnic distribution was largely European (65.7%) and Asian (29.4%) with Maori (5%) and Pacific (3%) minorities.
- Almost all schools received a higher than average decile rating.

Based on the above it can be assumed that on average, the upper harbour population is relatively active with a level of income that would enable participation in water based activities at a basic level (minimum).

DEMAND

As outlined in Scope and Limitations, accurately evaluating the extent of participation of water based activities and provision of appropriate infrastructure is complex, as participants are often engaged in varied and independent recreation making the recording of information and associated demand difficult to measure.

However, available data indicates that the popularity of the recreational paddling sports is likely to grow in the future due to:

- Increased population growth (projected) in the upper harbour area
- The higher profile of watersports on various media platforms
- The upper harbour marine area that, although tidal, provides a varied environment with a range of bays and inlets that are complementary for a range of recreational uses

It is noted that growth in recreational activities often translates into an increased participation in structured activities that may long term require the consideration of additional facilities to support baseline provision outlined in this report.

It is also acknowledged that pressures associated with projected levels of population growth will likely have an impact on the region's waterways, where recreational activities can be increasingly expected to encroach upon each other. In this regard facilities should be developed to be as flexible as practical to aid in relieving localised network pressures associated with demand.

CURRENT FACILITY TYPOLOGIES MAP

This map locates public (council) and privately owned water access facilities and associated area catchments within the Upper Habour Local Board. Assets are classified by Wharf or Boat Ramp access as applicable.

KEY

Water Access Typologies

- Public Wharf Access
- Public Boat Ramp Access
- Private Wharf Access
- Private Boat Ramp Access

Tidal Typologies

- Tidal Mudflat
- Intertidal
- Permanent Channel
- Deep water

Open Space Typologies

- Conservation
- Informal Recreation
- Sport and Active Recreation
- Community

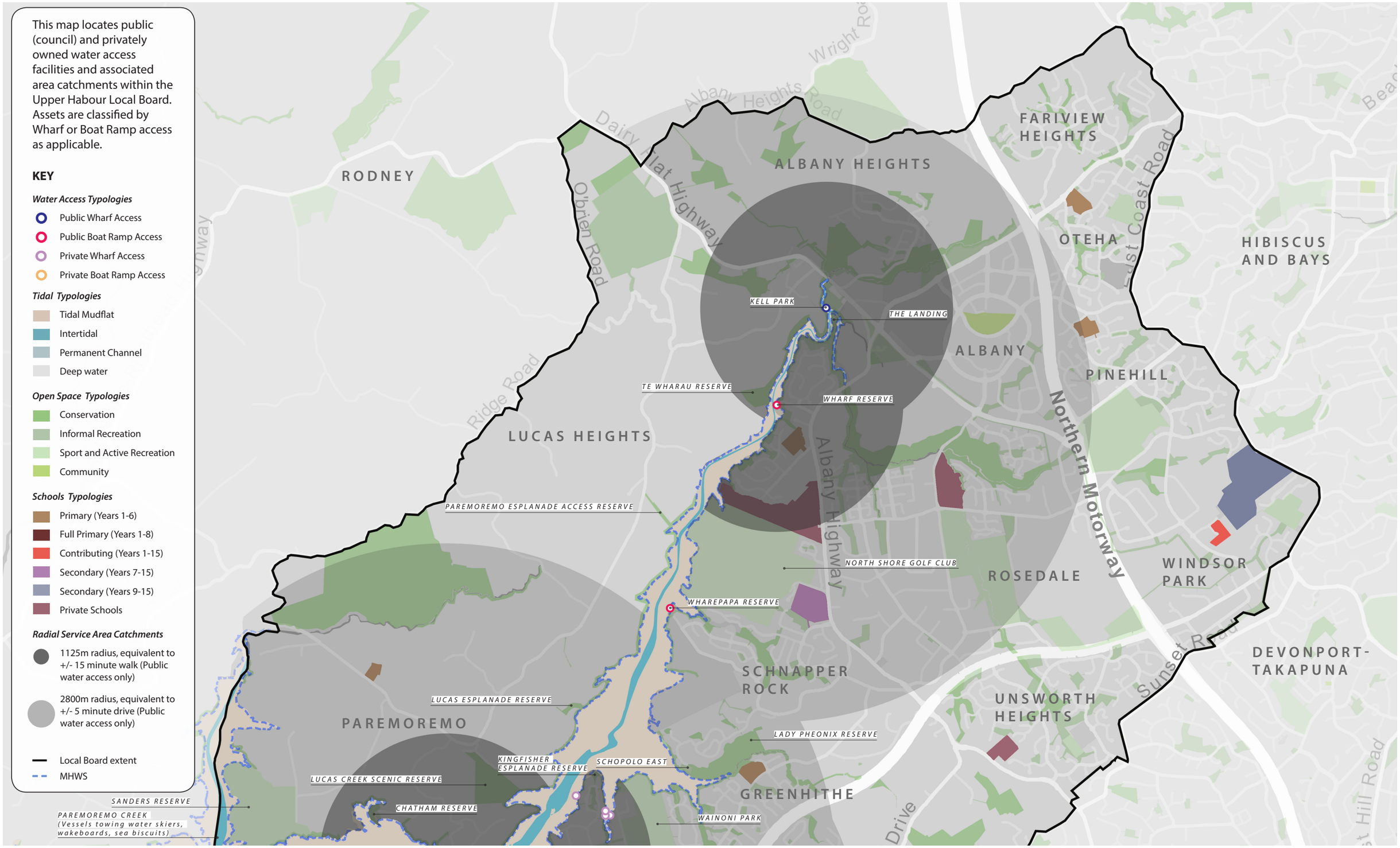
Schools Typologies

- Primary (Years 1-6)
- Full Primary (Years 1-8)
- Contributing (Years 1-15)
- Secondary (Years 7-15)
- Secondary (Years 9-15)
- Private Schools

Radial Service Area Catchments

- 1125m radius, equivalent to +/- 15 minute walk (Public water access only)
- 2800m radius, equivalent to +/- 5 minute drive (Public water access only)

- Local Board extent
- MHWS



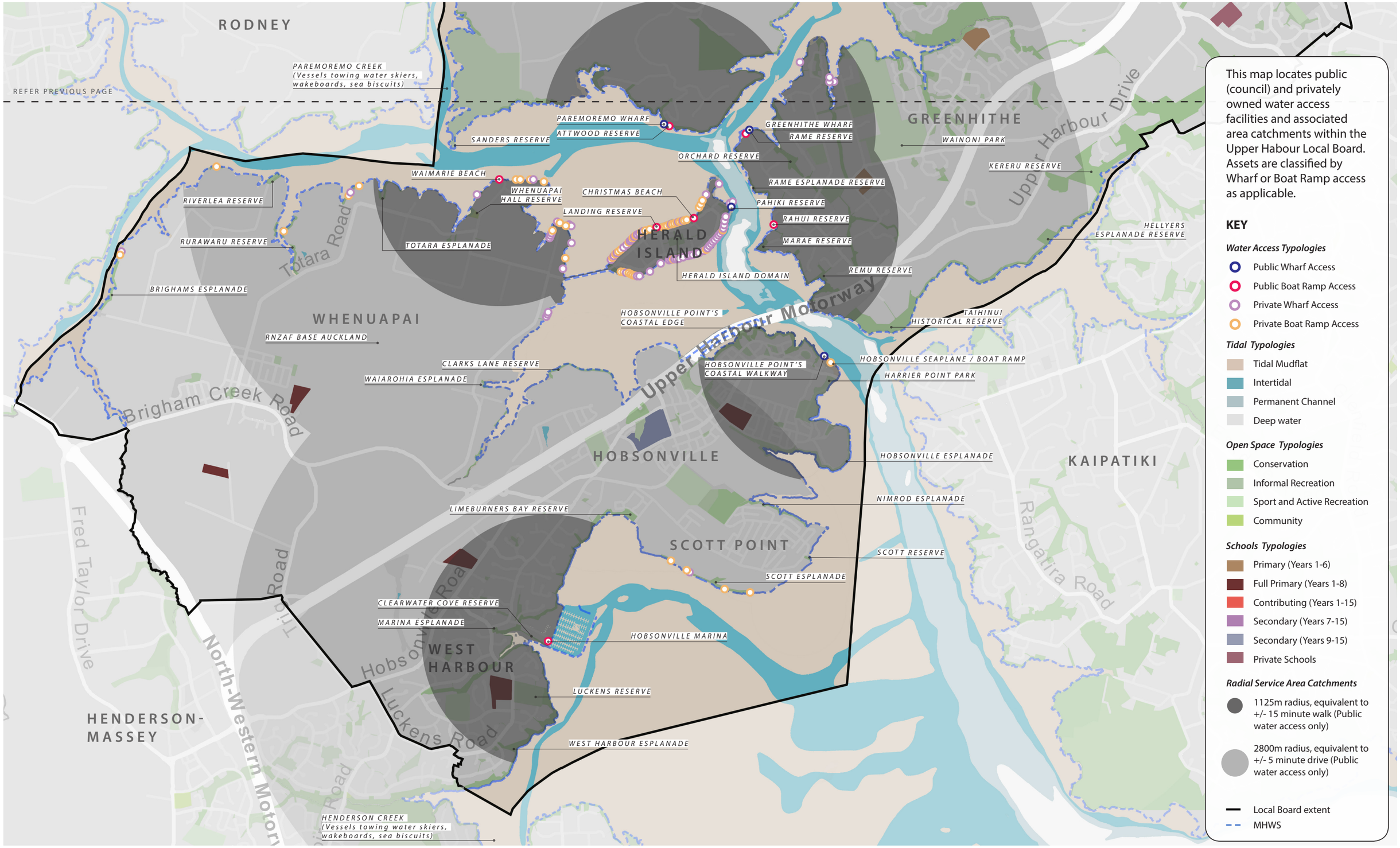
bespoke LANDSCAPE ARCHITECTS

Auckland Council
Te Kaunihera o Tāmaki Makaurau

CURRENT NETWORK SYNOPSIS
1:20000 at A3

WATER ACCESS ASSESSMENT
Upper Habour Local Board

REV B
September 2019



This map locates public (council) and privately owned water access facilities and associated area catchments within the Upper Habour Local Board. Assets are classified by Wharf or Boat Ramp access as applicable.

KEY

Water Access Typologies

- Public Wharf Access
- Public Boat Ramp Access
- Private Wharf Access
- Private Boat Ramp Access

Tidal Typologies

- Tidal Mudflat
- Intertidal
- Permanent Channel
- Deep water

Open Space Typologies

- Conservation
- Informal Recreation
- Sport and Active Recreation
- Community

Schools Typologies

- Primary (Years 1-6)
- Full Primary (Years 1-8)
- Contributing (Years 1-15)
- Secondary (Years 7-15)
- Secondary (Years 9-15)
- Private Schools

Radial Service Area Catchments

- 1125m radius, equivalent to +/- 15 minute walk (Public water access only)
- 2800m radius, equivalent to +/- 5 minute drive (Public water access only)

- Local Board extent
- MHWS

bespoke LANDSCAPE ARCHITECTS

Auckland Council Te Kaunihera o Tāmaki Makaurau

CURRENT NETWORK SYNOPSIS
1:20000 at A3

WATER ACCESS ASSESSMENT
Upper Habour Local Board

REV B
September 2019

CURRENT ACTIVITY TYPOLOGIES MAP

This map articulates **public** (council) owned assets and associated activity typologies that current facilities enable.

It is important to note the size of each 'target' is proportional to activities provision. The larger the target, the more activities enabled.

KEY

Water Access Activities Typologies

- Rowing
- Canoeing/Kayaking/ paddleboarding
- Swimming
- Fishing
- Boating
- Ferry terminals

Tidal Typologies

- Tidal Mudflat
- Intertidal
- Permanent Channel
- Deep water

Open Space Typologies

- Conservation
- Informal Recreation
- Sport and Active Recreation
- Community

Radial Service Area Catchments

- 1125m radius, equivalent to +/- 15 minute walk (Public water access only)
- 2800m radius, equivalent to +/- 5 minute drive (Public water access only)
- Local Board extent

RODNEY
ALBANY HEIGHTS
FARIVIEW HEIGHTS
OTEHA
HIBISCUS AND BAYS
ALBANY
PINEHILL
LUCAS HEIGHTS
WINDSOR PARK
ROSEDALE
SCHNAPPER ROCK
UNSWORTH HEIGHTS
DEVONPORT-TAKAPUNA
PAREMOREMO
GREENHITHE
Wright Road
Albany Heights Road
Dairy Flat Highway
O'brien Road
East Coast Road
Ridge Road
Albany Highway
Northern Motorway
Sunset Road
Drive
Hill Road

KELL PARK
WHARF RESERVE
WHAREPAPA RESERVE
PAREMOREMO CREEK
(Vessels towing water skiers, wakeboards, sea biscuits)

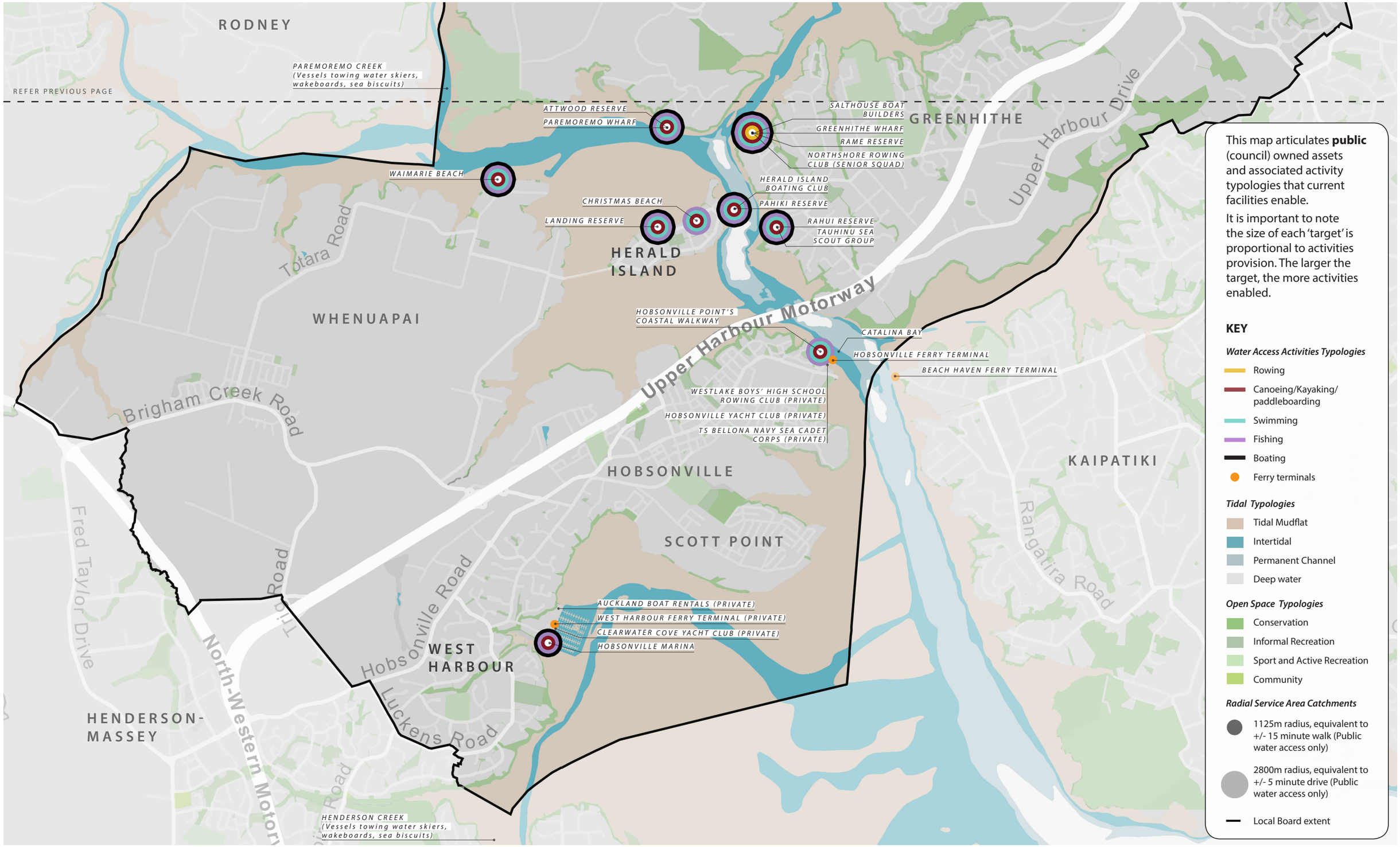
bespoke LANDSCAPE ARCHITECTS

Auckland Council
Te Kaunihera o Tāmaki Makaurau

CURRENT NETWORK SYNOPSIS
1:20000 at A3

WATER ACCESS ASSESSMENT
Upper Habour Local Board

REV B
September 2019



This map articulates **public** (council) owned assets and associated activity typologies that current facilities enable.

It is important to note the size of each 'target' is proportional to activities provision. The larger the target, the more activities enabled.

KEY

Water Access Activities Typologies

- Rowing
- Canoeing/Kayaking/ paddleboarding
- Swimming
- Fishing
- Boating
- Ferry terminals

Tidal Typologies

- Tidal Mudflat
- Intertidal
- Permanent Channel
- Deep water

Open Space Typologies

- Conservation
- Informal Recreation
- Sport and Active Recreation
- Community

Radial Service Area Catchments

- 1125m radius, equivalent to +/- 15 minute walk (Public water access only)
- 2800m radius, equivalent to +/- 5 minute drive (Public water access only)
- Local Board extent

DEVELOPMENT RECOMMENDATIONS

NETWORK DEVELOPMENT OPPORTUNITIES TABLE

Catchment Area Refer Water Access Opportunities Map for locations	*Network Improvements and Opportunities* Addresses Geographic` Gap	Projected Population Growth	Proposed New Facility	Improvements to Existing Facility	Preventative Maintenance Required	Priority	Comments and Recommendations
West Harbour							
Hobsonville Marina		●		●		LOW	• The nature of any future expansion will need to be investigated in order to understand how this may improve capacity for the growing West Harbour and Hobsonville population. The presence of regulatory information restricting parking on Clearwater Road in the weekends suggests the facility is already under pressure and this should be considered in any planned redevelopment. • A paddle craft locker could be considered in this location to improve frequency of use for those without regular access to transport. • Low priority status is assigned as existing infrastructure is in good condition and appropriate given current spatial constraints.
Luckens Reserve	●	●	●			MED	• Investigate locations at Luckens Reserve for a potential stop point for paddle oriented activities to address a geographic gap in access, complement Hobsonville Marina facilities and provide an option to separate paddle and motorised user groups. • Given tidal restrictions, a short boardwalk / wharf structure would be considered an appropriate facility to improve access at high tide. • Medium priority status is triggered by the absence of any facilities, associated geographic gap in provision and projected population growth pressures.
Hobsonville							
Catalina Bay	●	●		●		HIGH	• The existing seaplane / boat ramp structure is nearing the end of its functional lifecycle and requires renewal to maintain craft launching access in this area. Given the complexities associated with establishing new structures in the coastal marine area, and the ramp provides low tide access to the water, it is recommended that this structure be retained and renewed. Ownership and management issues will need to be investigated further to establish the feasibility of this recommendation. • It is noted that the existing boardwalk under council ownership does not provide fit for purpose land based launching access, and no other launching facilities currently exist in the Hobsonville area. Any potential new facility (including Marine Recreation Centre currently being considered) will require the investigation of supporting access facilities and status confirmation to ensure appropriate catchment coverage. • Should the existing seaplane / boat ramp be disestablished, synergies between the Hobsonville Yacht Club, TS Bellona Navy Sea Cadet Corps, North Shore and Westlake Boys Rowing Club's should be investigated, or other potential options within the Hobsonville / Catalina Bay area considered to provide access at mid - high tide (minimum). • High priority status is triggered by the significant geographic gap the absence of a facility in this location would create in tandem with projected population growth pressures.
Limeburner Bay	●	●	●			HIGH	• Investigate locations at Limeburners Bay Reserve for a potential stop point for paddle oriented activities to complement Hobsonville Marina and address a geographic access gap in the Scott Point area. • Given tidal restrictions, a short boardwalk / jetty structure would be considered an appropriate facility to improve access at high tide. • There is also opportunity to acknowledge historical brickworks activities as part of establishing access. • High priority status is triggered by the absence of any facilities, associated geographic gap in provision and projected population growth pressures.
Nimrod Inlet	●	●	●			HIGH	• Investigate locations Nimrod Inlet / Esplanade reserve and associated open space for a potential stop point for paddle oriented activities • Given tidal restrictions, a short boardwalk / jetty structure would be considered an appropriate facility to improve access at high tide. • High priority status is triggered by the absence of any facilities, associated geographic gap in provision and projected population growth pressures.

NETWORK DEVELOPMENT OPPORTUNITIES TABLE

Catchment Area Refer Water Access Opportunities Map for locations	*Network Improvements and Opportunities* Addresses Geographic` Gap	Projected Population Growth	Proposed New Facility	Improvements to Existing Facility	Preventative Maintenance Required	Priority	Comments and Recommendations
Whenuapai							
Waimarie Beach		●		●		MED	• Facility in good working order and provides appropriate high tide access given proximity to permanent channel. Retain and renew to ensure appropriate access in this catchment area. At renewal consider improving beach transition and widening the facility to improve functionality. Existing stair to open space should be repaired n the short term. • Investigate opportunities to improve car and trailer parking access, use and capacity noting likely increase in use due to population growth. • Medium priority status is triggered by the current absence of other facilities in the area and projected population growth pressures.
Riverlea Reserve	●	●	●			HIGH	• Riverlea Reserve is strategically positioned within the Whenuapai area to address a significant geographic gap and has the potential to provide water access for the full tide cycle. • It is recommended that the feasibility of establishing ramp and / or wharf options are investigated. This should include also include an assessment of opportunities to widen Riverlea Road to improve functional access, and provide car and trailer parking. • High priority status is triggered by the absence of any facilities, associated geographic gap in provision and projected population growth pressures.
Herald Island							
Christmas Beach				●		LOW	• Existing beach ramp surface in average working condition though appears structurally sound. The structure provides an appropriate level of access to this tidal beach. Renew at end of natural lifecycle to retain public access in this location. At renewal consider improving widening the facility to improve functionality. • Low priority status is assigned as existing infrastructure is functional working condition and a significant percentage of Herald Island residents have their own private water access with associated reduction in perceived demand.
Landing Reserve				●		LOW	• Existing boat ramp and associated retaining in good condition. Renew at end of natural lifecycle to retain public access in this location. • It is recommended that the existing unsealed carpark be sealed to improve functionality and durability, and that residential boundaries are addressed with a view to providing improved public amenity. • Low priority status is assigned as existing infrastructure is in good condition and car parking provides functional access.
Pahiki Reserve					●	LOW	• Facilities in good working order with supporting public amenities. Renew at end of natural lifecycle to retain public access in this catchment area. • Low priority status is assigned as existing infrastructure is in good condition and are appropriate given current spatial constraints.
Greenhithe							
Rame Reserve				●		MED	• Wharf and pontoon facilities are in good working condition and provide good baseline access for all typical activities with adjacent supporting amenities. It appears that wharf and pontoon structures have been upgraded as stipulated in the ARPASS (Auckland Regional Paddling and Rowing Facilities) Study prepared by Visitor Solutions. The boat ramp is in average condition and should be considered for renewal. • Given there are social, spatial environmental and financial constraints that potentially limit this facility reaching its full potential, it is recommended that key stakeholders are engaged to discuss the feasibility of implementing outstanding items required to enable competition and improve functionality as outlined in the Visitor Soultions report. • Options to improve public private relationship between boat builder and rowing club should also be investigated including the provision of reserve signage to improve legibility of public realm. • Medium priority status is triggered due to the strategic location of this facility in the Greenhithe catchment and its potential to provide quality sub regional rowing / canoeing facilities.

NETWORK DEVELOPMENT OPPORTUNITIES TABLE

Catchment Area Refer Water Access Opportunities Map for locations	*Network Improvements and Opportunities* Addresses Geographic` Gap	Projected Population Growth	Proposed New Facility	Improvements to Existing Facility	Preventative Maintenance Required	Priority	Comments and Recommendations
Greenhithe							
Rahui Reserve				●		LOW	• Existing beach ramp surface in average working condition though appears structurally sound. The structure provides an appropriate level of access to this tidal beach. Renew at end of natural lifecycle to retain public access in this location. At renewal consider improving the provision of open space amenities including signage. • Low priority status is assigned as existing infrastructure is in functional working condition and a significant percentage of Herald Island residents have their own private water access with associated reduction in perceived demand.
Schnapper Rock							
Wharepapa Reserve	●		●			MED	• The listed asset in this location does not exist. Given tidal restrictions and proximity of permanent channel, a short boardwalk / jetty structure would be considered an appropriate facility to improve access at high tide. • Medium priority status is triggered by the absence of any facilities in the Schnapper Rock catchment and associated geographic gap in provision.
Albany and Albany Heights							
Kell Park				●	●	LOW	• Facilities in good working order and provide an acceptable level of provision given tidal restrictions and physical (access related) constraints. Renew at end of natural lifecycle to retain public access in this catchment area. At renewal consider providing a pontoon / floating deck structure to improve functionality at high tide. • Low priority status is assigned as existing infrastructure is in good condition and appropriate given physical and spatial constraints.
Wharf Reserve				●	●	HIGH	• Existing boat ramp in good condition but requires maintenance and review of surface to improve slip resistance and user safety • Given the current facility provides access to the water for the full tide cycle, it is recommended that the feasibility of establishing ramp complementary wharf and / or pontoon options are investigated. This should include also include establishing whether vehicular launching of craft be permitted (as this is currently precluded by bollards) and an assessment of opportunities to improve functional access, and provide formal car and trailer parking. • High priority status is triggered due to strategic location at the head of Lucas Creek and provision of access at all tides.
Paremoremo							
Attwood Reserve				●	●	MED	• Existing boat ramp, wharf structure (particularly steps) and shelter requires preventative maintenance and review of surfaces / structures to improve slip resistance and user safety. • Given the current facility provides access to the water for the full tide cycle, it is recommended that the feasibility of establishing a pontoon / floating deck structure is investigated to complement existing facilities and improve functionality and access for recreational paddling craft through the tides. • Medium priority status is triggered due to strategic location, the absence of other facilities in the Paremoremo catchment and the provision of access at all tides.
Sanders Reserve	●	●	●			HIGH	• Access to Sanders Reserve is currently afforded at high tide via shingle beach and informal track to formalised reserve network. • Investigate locations at Sanders Reserve for a potential stop point for paddle oriented activities . Given tidal restrictions and significant distance required to provide low tide access, a short boardwalk / wharf structure would be considered an appropriate facility to improve access at high tide. Consideration should also be given to providing wayfinding signage and connections to the existing track network track, as although separated, this would provide improved access to existing toilet facilities and related amenities. • High priority status is triggered by the strategic location of the reserve, absence of existing facilities and associated geographic gap in provision.

NETWORK DEVELOPMENT OPPORTUNITIES PRIORITY MAP

This map identifies high, medium and low priorities public water access facilities for network improvements and opportunities.

Refer Network Development Opportunities Table in previous section for further information, commentary and recommendation on individual location

KEY

Priorities Typologies

- High
- Medium
- Low

Tidal Typologies

- Tidal Mudflat
- Intertidal
- Permanent Channel
- Deep water

Open Space Typologies

- Conservation
- Informal Recreation
- Sport and Active Recreation
- Community

Radial Service Area Catchments

- 1125m radius, equivalent to +/- 15 minute walk (Public water access only)
- 2800m radius, equivalent to +/- 5 minute drive (Public water access only)

- Local Board extent
- MHWS

RODNEY
ALBANY HEIGHTS
FARIVIEW HEIGHTS
OTEHA
HIBISCUS AND BAYS
ALBANY
PINEHILL
LUCAS HEIGHTS
WINDSOR PARK
ROSEDALE
SCHNAPPER ROCK
UNSWORTH HEIGHTS
DEVONPORT-TAKAPUNA
PAREMOREMO
GREENHITHE

Wright Road
Albany Heights Road
Dairy Flat Highway
O'brien Road
East Coast Road
Ridge Road
Albany Highway
Northern Motorway
Sunset Road
Drive

KELL PARK

WHARF RESERVE

WHAREPAPA RESERVE

PAREMOREMO CREEK
(Vessels towing water skiers, wakeboards, sea biscuits)

bespoke
LANDSCAPE ARCHITECTS

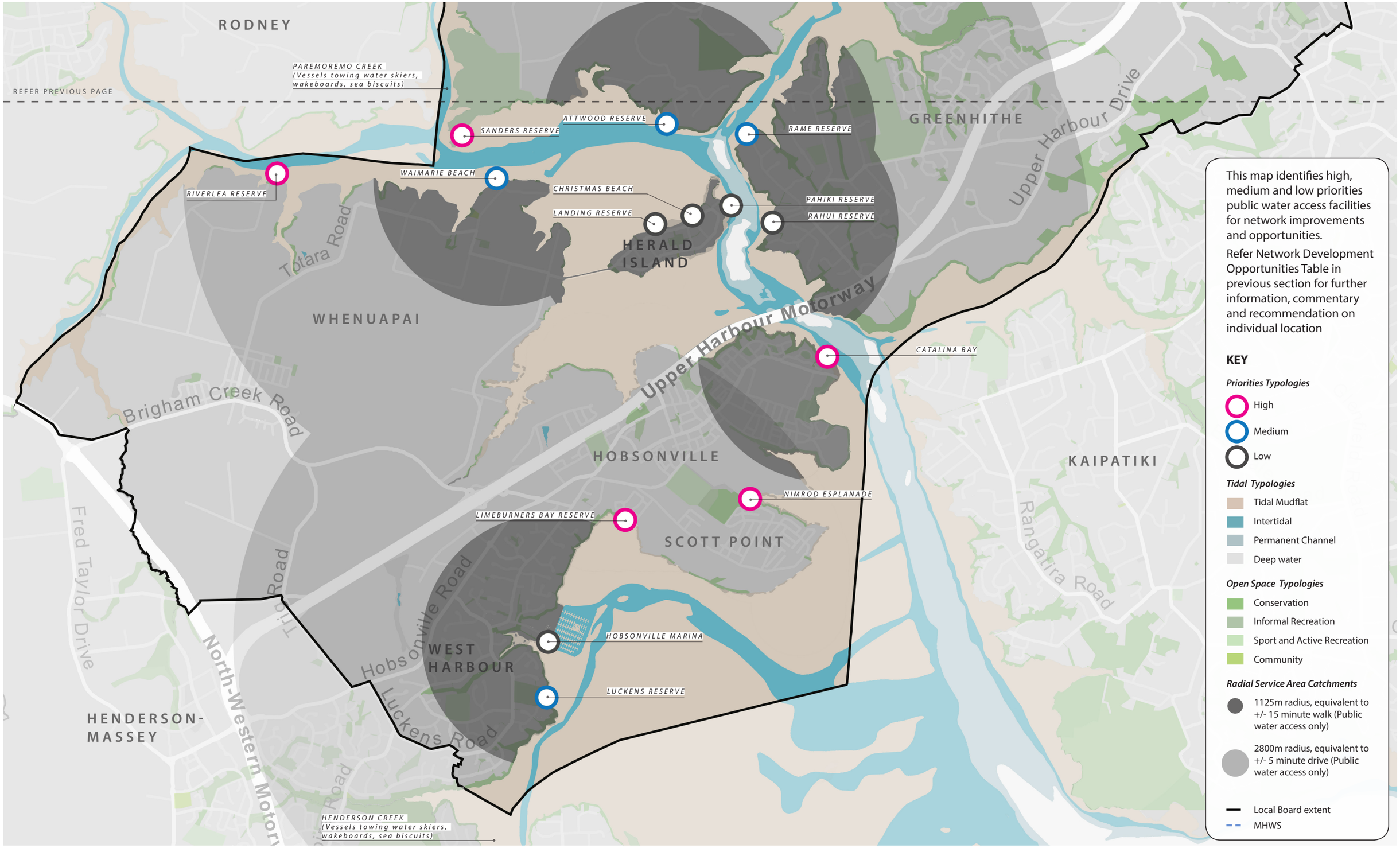
Auckland Council
Te Kaunihera o Tāmaki Makaurau

DEVELOPMENT RECOMMENDATIONS
1:20000 at A3

WATER ACCESS ASSESSMENT
Upper Habour Local Board

REV B
September 2019

NETWORK DEVELOPMENT OPPORTUNITIES PRIORITY MAP



This map identifies high, medium and low priorities public water access facilities for network improvements and opportunities.

Refer Network Development Opportunities Table in previous section for further information, commentary and recommendation on individual location

KEY

Priorities Typologies

- High
- Medium
- Low

Tidal Typologies

- Tidal Mudflat
- Intertidal
- Permanent Channel
- Deep water

Open Space Typologies

- Conservation
- Informal Recreation
- Sport and Active Recreation
- Community

Radial Service Area Catchments

- 1125m radius, equivalent to +/- 15 minute walk (Public water access only)
- 2800m radius, equivalent to +/- 5 minute drive (Public water access only)

- Local Board extent
- MHWS

APPENDIX A

DATA CAPTURE SPREADSHEET

DATA CAPTURE SPREADSHEET - PUBLIC FACILTY

Name	Location/Address	Asset/Equipment ID	Ownership	Structure Type	Tidal Access Restriction	Parking	Condition commentary	Condition rating	Rowing	Canoeing/ Kayaking/ Paddle board	Swimming	Fishing	Boating	Priority	Desktop and Site Review Comments
Hobsonville Point's Coastal Walkway	Catalina Bay	Coastal permit held by Council	Public	Wharf	N/A	N/A	+ Boardwalk structure in good condition.	N/A		Y	Y	Y		Low	+ Access from Catalina Bay + Asset number not provided in (SAP spreadsheet)
Attwood Reserve	[Paremoremo] R138 Attwood Road	1000016133	Public	Wharf	N	Limited	+ Wharf structure appears sound. + Low tide access platform & associated stairs requires review and potential renewal + Incillary shed & other amenities require preventative maintenance to prevent deterioration.	2		Y	Y	Y	Y	Medium	+ Paremoremo Wharf (SAP Description) + Located in park extent + Kayak trail stop off point on proposed greenway plan + Shed/shelter with basic fish processing bench + Bins and Signage + Limited parking opportunity + Easy Road access + Consider improving low tide stair access structure
Attwood Reserve	[Paremoremo] R138 Attwood Road	1000016137	Public	Boat Ramps	N	Limited	+ Boat ramp structure appears sound. + Structure requires preventative maintenance to prevent deterioration and replacement of anti-slip surface.	3		Y			Y	Medium	+ Dinghy Ramp (SAP Description) + Located in park extent + Limited on street parking with little opportunity to improve provision due to spatial / physical constraints + Consider improving low tide access structure
Attwood Reserve	[Paremoremo] R138 Attwood Road	1000084546	Public	Boat Ramps	N/A	N/A	+ Concrete pavement in good working condition. Retain and renew at end of asset life cycle.	N/A						Medium	+ Misc Func surface, wooden track/path (SAP Description) + Concrete surface Not wooden as decribed in SAP + Located in park extent
Christmas Beach	[Herald Island] 86 The Terrace	1000015815	Public	Boat Ramps	Y	Limited	+ Beach ramp in average working condition. Retain and renew at end of asset life cycle.	3		Y	Y	Y		Low	+ Play ground in close proximity + Open park/grass area + Located in park extent + Seating and water tap + Easy road access + Limited road side parking + improve functionality by widening existing structure long term + Kayak trail stop off point on proposed greenway plan
Kell Park	[Albany] 257 Dairy Flat Highway	1000101178	Public	Wharf	Y	Yes	+ Boardwalk / wharf structure good working condition.	2		Y		Y		Low	+ Playground in close proximity + Wetland with boardwalk leading up to Wharf + Access to inlet platform via boardwalk and stairs + Parking considerable distance away from wharf structure + Stop off point only, with poor land based access for launching paddle craft + Water turbid and not inviting + Consider improving structure to improve high tide access
Landing Reserve	[Herald Island] The Terrace-Lot 56 (Adjacent)	1000015664	Public	Boat Ramps	Y	Yes	+ Existing boat ramp and associated retaining in good condition.	4		Y	Y	Y	Y	Low	+ Open lot area next to unit 56 + Unit 56 itself doesn't have boat ramps or wharf + Public access + Easy road access + Not full time access, gate close at 9pm (Winter) or 10pm (Summer) + Bus stop right outside + Open loose gravel area for parking could be considered for permanent durable surface + Residential boundary relationship / amenity poor
Marina Esplanade (Hobsonville Marina)	[West Harbour] Listed as 38 Seacrest Drive but is locted at termination of Clearwater Cove	1000095536	Public	Boat Ramps	N	Yes	+ Existing boat ramp arid pontoon and car parking facilities in good condition.	3		Y	Y	Y	Y	Low	+ Public accesss to boatramp + Located next to West habour ferry terminal (Westpark Marina) + Kayak trail stop off point on proposed greenway plan + Facilities incluide Bensemann boating centre and Auckland boat rentals + Commercial area + Easy road access + Carpark (For trailer) with Clearwater Road parking restrictions in weekends + Wharf type structure between two boat ramp

DATA CAPTURE SPREADSHEET - PUBLIC FACILTY

Name	Location/Address	Asset/Equipment ID	Ownership	Structure Type	Tidal Access Restriction	Parking	Condition commentary	Condition rating	Rowing	Canoeing/ Kayaking/ Paddle board	Swimming	Fishing	Boating	Priority	Desktop and Site Review Comments
Pahiki Reserve	[Herald Island] 03 Twin Wharf Road	1000028776	Public	Wharf	N	Yes	+ Wharf in good working order	3		Y	Y	Y	Y	Low	+ Pontoon and wharf structures + Kayak trail stop off point on proposed greenway plan + Public toilet facilities + Seating + Shelter + Locker (appears pricate associated with boating club) + Herald Island Boating Club members only wharf and pontoon next to public wharf + Easy road access + Limited carparking
Rahui Reserve	[Greenhithe] 17 Rahui Road	1000016187	Public	Boat Ramps	Y	Yes	+ Ramp acess in average working condition	2		Y	Y	Y	Y	Low	+ Dinghy (SAP Description) + Tauhinu Sea Scout Group Building adjacent + Public Toilet facilities + Easy road access
Rahui Reserve	[Greenhithe] 17 Rahui Road	1000084525	Public	Boat Ramps	Y	Yes	+ As above	N/A						Low	+ Misc Func Surf Concrete cast in situ (SAP Description) + Limited on street parking with little opportunity to improve provision due to spatial / physical constraints
Rame Reserve	[Greenhithe] 101 Rame Road	1000016202	Public	Boat Ramps	N	Yes	+ Refer below	3		Y			Y	Medium	+ Better distinction between private and public boundary
Rame Reserve	[Greenhithe] 101 Rame Road	1000028776	Public	Wharf	N	Yes	+ Wharf and pontoon facilities are in good working condition	2	Y	Y	Y	Y	Y	Medium	+ Greenhithe Wharf + Salthouse boatbuilders building in adjacent lot + Better public access legibility required + Current North Shore Rowing Club (Senior squad) train and store boats at Greenhithe base on Rame rd (Oratau reserve) + Storage facility + Easy road access + Pontoon + Carparking + Toilet facility + Dinghy lockers (maintained by Panuku development Auckland's marinas team.
Rame Reserve	[Greenhithe] 101 Rame Road	1000084462	Public	Boat Ramps	N/A	N/A	+ Boat ramp is in average condition and should be considered for renewal.	N/A						Medium	+ Misc Func Surface Concrete cast in (SAP Description)
Waimarie Beach	[Whenuapai] Waimarie Road	1000015324	Public	Boat Ramps	Y	Limited	+ All structures are in good working condition apart from timber stair access to small open space area that requires renewal	1		Y	Y	Y	Y	Medium	+ Kayak trail stop off point on proposed greenway plan + Easy Road access + No dedicated parking with little opportunity to improve provision due to spatial / physical constraints + Consider options for improving access and parking long term.
Wharepapa Reserve	[Schnapper Rock] 286 Schnapper Rock Road	1000084530	Public	Boat Ramps	Y	Limited	+ 'Ramp' access effectively a glorified earthworks cut with limited aggregate topping in poor condition	5				Y		Medium	+ Cliff base-Rock-Schnapper Rk Rd_PVT (Sap Description). No physical structure + Informal access track + Playground nearby + Open park/lawn area + Located in park extent + Limited on street parking with little opportunity to improve provision due to spatial / physical constraints + Road access but not directly to the 'ramp'. Bollards preclude vehicular launching access
Wharepapa Reserve	[Schnapper Rock] 286 Schnapper Rock Road	1000084531	Public	Boat Ramps	N/A	N/A	+ As above	N/A						Medium	+ Misc Func Surface Unsurfaced Track (SAP Description)
Wharf Reserve - Albany	[Albany] 29 Wharf Road	1000016225	Public	Boat Ramps	N	Limited	+ Existing boat ramp in good condition but requires maintenance and review of surface to improve slip resistance	2		Y			Y	High	+ Open park/lawn area + Bins and Signage + Easy road access + Limited on road parking (Cul de sac) + Water turbid and not inviting + It appears bollards have been installed to prevent motorised boat launch/vehicular access to launching ramp + Consider improving structure to accommodate wider user groups + Kayak trail stop off point on proposed greenway plan

DATA CAPTURE SPREADSHEET - PRIVATE FACILITY

Name	Location/Address	Asset/Equipment ID	Ownership	Structure Type	Tidal Access Restriction	Parking	Condition commentary	Condition rating	Rowing	Canoeing/ Kayaking/ Paddle board	Swimming	Fishing	Boating	Priority	Desktop and Site Review Comments
Hobsonville	Catalina Bay	Coastal permit held by HLC	Private	Boat Ramps	N	Yes	+ Boat ramp structure appears sound. + Retain and renew at end of asset life cycle	N/A	Y	Y	Y	Y	Y	High	+ Easy road access + Westlake Boys High School Rowing Club storage facilty located nearby + Hobsonville Yacht Club building located nearby + TS Bellona Navy Sea cadet Corps gather at Hobsonville Yacht Club building + Hobsonville Ferry terminal + Public parking available + Located in Catalina Bay
25 Waimarie Road Esplanade Res	25a Waimarie Rd (Coast)	1000013998	Private	Wharf											+ Located in park extent. Unit 25A geomaps asset + Proposed green route pass through here + Not publicly accessible
Brighams Creek Esplanade	10 Bristol Road (Coast)	1000015796	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Brighams Esplanade	10 Bristol Road - Part Lot 4 DP 100663	1000015771	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Bristol Road Esplanade Reserve	24 Bristol Rd	1000015792	Private	Boat Ramps											+ Wharf not captured in data spreadsheet but showing on geomaps asset + Located in park extent (unit 36 geomaps) + Not publicly accessible + Proposed green route will pass through here
Christmas Beach	88 The Terrace (Adjacent)	1000015721	Private	Boat Ramps											+ Located in park extent + Private ownership but located in the esplande, potential for public access/use + Proposed green route will pass through here
Christmas Beach	90 The Terrace (Adjacent)	1000015726	Private	Boat Ramps											+ Located in park extent + Private ownership but located in the esplande, potential for public access/use + Proposed green route will pass through here
Christmas Beach	90 The Terrace (Behind)	1000028588	Private	Wharf											+ Jetty like structure + Located in park extent + Council signage on wharf structure + Private ownership but located in the esplande, potential for public access/use + Proposed green route will pass through here
Christmas Beach	92 The Terrace (Adjacent)	1000019321	Private	Boat Ramps											+ Located in park extent + Kayak tail stop off point in greenway plan + Private ownership but located in the esplande, potential for public access/use + Proposed green route will pass through here
Churchouse Esplanade Reserve	73-75 Churchouse Rd (Coast)	1000016157	Private	Wharf											+ Located in park extent + Forest ecological extent + Not publicly accessible
Ferry Parade Plt Reserve	67 Ferry Parade (Coast)	1000014003	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	101 Ferry Parade (Coast)	1000028736	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	103 Ferry Parade (Coast)	1000028741	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	105 Ferry Parade (Coast)	1000028746	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	109 Ferry Parade (Adjacent)	1000018683	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	109 Ferry Parade - Lot 256 DP 31409	1000015800	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	111 Ferry Parade (Coast)	1000028761	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here

DATA CAPTURE SPREADSHEET - PRIVATE FACILITY

Name	Location/Address	Asset/Equipment ID	Ownership	Structure Type	Tidal Access Restriction	Parking	Condition commentary	Condition rating	Rowing	Canoeing/ Kayaking/ Paddle board	Swimming	Fishing	Boating	Priority	Desktop and Site Review Comments
Ferry Parade Plt Reserve	117 Ferry Parade (Coast)	1000028766	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	121 Ferry Parade (Coast)	1000028771	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	49 Ferry Parade (Coast)	1000028659	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	49 Ferry Parade (Coast)	1000028664	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	51 Ferry Parade - Lot 254 DP 31409	1000018377	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	53 Ferry Parade (Coast)	1000028669	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	55 Ferry Parade (Coast)	1000028674	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	59 Ferry Parade - Lot 254 DP 31409 (Coast)	1000028649	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	63 Ferry Parade (Coast)	1000028679	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	65 Ferry Parade (Coast)	1000028684	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	71 Ferry Parade (Coast)	1000028689	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	75 Ferry Parade (Adjacent)	1000018691	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	77 Ferry Parade (Coast)	1000015644	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	83 Ferry Parade (Coast)	1000028704	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	89 Ferry Parade (Coast)	1000028709	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	91 Ferry Parade (Coast)	1000028714	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	93 Ferry Parade (Coast)	1000028719	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	95 Ferry Parade (Coast)	1000028726	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	97 Ferry Parade (Coast)	1000017283	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	99 Ferry Parade (Coast)	1000028731	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Ferry Parade Plt Reserve	83 Ferry Parade - Lot 255 DP 31409	1000018382	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	105 Kauri Rd (Adjacent)	1000026858	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	107 Kauri Rd (Adjacent)	1000026863	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	107 Kauri Rd (Adjacent)	1000026868	Private	Wharf											+ Located in park extent + Not publicly accessible + Mooring + Proposed green route will pass through here
Kauri Esplanade	159 Kauri Rd (Coast)	1000015736	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here

DATA CAPTURE SPREADSHEET - PRIVATE FACILITY

Name	Location/Address	Asset/Equipment ID	Ownership	Structure Type	Tidal Access Restriction	Parking	Condition commentary	Condition rating	Rowing	Canoeing/ Kayaking/ Paddle board	Swimming	Fishing	Boating	Priority	Desktop and Site Review Comments
Kauri Esplanade	161 Kauri Rd (Coast)	1000042086	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	187 Kauri Rd (Adjacent)	1000018576	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	188 Kauri Rd (Coast)	1000016040	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	190 Kauri Rd (Adjacent)	1000018601	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	190 Kauri Rd (Adjacent)	1000018606	Private	Wharf											+ Located in park extent + Not publicly accessible + Mooring + Proposed green route will pass through here
Kauri Esplanade	190 Kauri Rd (Coast)	1000015731	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	194 Kauri Rd (Adjacent)	1000018586	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	194 Kauri Rd (Coast)	1000018596	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	207 Kauri Rd (Adjacent)	1000018581	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	207 Kauri Rd (Adjacent)	1000043360	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kauri Esplanade	207 Kauri Rd (Coast)	1000045501	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingfisher Esplanade Reserve	11 Kingfisher Grove	1000082929	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingfisher Esplanade Reserve	17 Kingfisher Grove	1000082928	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingfisher Esplanade Reserve	22 Kingfisher Road	1000082927	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingsway Reserve	09 Ferry Parade - Lot 252 DP 31409(Adjacent)	1000022366	Private	Wharf											+ Lot 9 have 2 Boat ramp and 1 Wharf + Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingsway Reserve	09 Ferry Pararde - Lot 252 DP 31409	1000016933	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingsway Reserve	09 Ferry Pararde - Lot 252 DP 31409	1000018696	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingsway Reserve	09 Ferry Pararde - Lot 252 DP 31409	1000018701	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingsway Reserve	09 Ferry Pararde - Lot 252 DP 31409	1000026889	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingsway Reserve	09 Ferry Pararde - Lot 252 DP 31409	1000026894	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingsway Reserve	09 Ferry Pararde - Lot 252 DP 31409	1000026899	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingsway Reserve	19 Ferry Parade (Adjacent)	1000018666	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kingsway Reserve	21 Ferry Parade (Coast)	1000028633	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kowhai Beach Reserve	27 Ferry Parade (Coast)	1000028639	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Kowhai Beach Reserve	37 Ferry Parade (Adjacent)	1000047159	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here

DATA CAPTURE SPREADSHEET - PRIVATE FACILITY

Name	Location/Address	Asset/Equipment ID	Ownership	Structure Type	Tidal Access Restriction	Parking	Condition commentary	Condition rating	Rowing	Canoeing/ Kayaking/ Paddle board	Swimming	Fishing	Boating	Priority	Desktop and Site Review Comments
Landing Reserve	06 The Terrace (Adjacent)	1000019245	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	08 The Terrace (Adjacent)	1000018736	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	08 The Terrace (Adjacent)	1000020939	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	12 The Terrace (Adjacent)	1000029621	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	14 The Terrace (Adjacent)	1000018672	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	14 The Terrace (Adjacent)	1000022356	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	16 The Terrace (Adjacent)	1000018678	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	20 The Terrace (Adjacent)	1000018731	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	24 The Terrace (Adjacent)	1000018726	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	26 The Terrace (Adjacent)	1000018721	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	26 The Terrace (Adjacent)	1000022286	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	28 The Terrace (Adjacent)	1000022361	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	30 The Terrace (Adjacent)	1000029838	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	32 The Terrace (Adjacent)	1000025059	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	32 The Terrace (Adjacent)	1000025064	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	36 & 38 The Terrace(Adjacent)	1000025069	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	40 The Terrace (Adjacent)	1000046543	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	42 The Terrace (Adjacent)	1000018711	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	44 The Terrace (Adjacent)	1000018688	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	44 The Terrace (Adjacent)	1000026904	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	46 The Terrace (Adjacent)	1000018716	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	60 The Terrace (Adjacent)	1000040518	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	62 The Terrace (Adjacent)	1000017059	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	64 The Terrace (Adjacent)	1000022281	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	68 The Terrace (Adjacent)	1000022371	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here

DATA CAPTURE SPREADSHEET - PRIVATE FACILITY

Name	Location/Address	Asset/Equipment ID	Ownership	Structure Type	Tidal Access Restriction	Parking	Condition commentary	Condition rating	Rowing	Canoeing/ Kayaking/ Paddle board	Swimming	Fishing	Boating	Priority	Desktop and Site Review Comments
Landing Reserve	68 The Terrace (Adjacent)	1000029636	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	70 The Terrace (Adjacent)	1000017054	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	72 The Terrace (Adjacent)	1000018706	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	76 The Terrace (Adjacent)	1000040514	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	78 The Terrace (Adjacent)	1000019326	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	78 The Terrace (Adjacent)	1000029631	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	80 The Terrace (Adjacent)	1000040510	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	80 The Terrace (Behind)	1000028563	Private	Wharf											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	82 The Terrace (Adjacent)	1000040506	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Landing Reserve	84 The Terrace (Adjacent)	1000029626	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Pahiki Reserve	03 Twin Wharf Road	1000028781	Private	Wharf											+ Pahiki Reserve-Res & Wharf Trust (SAP Description) + Herald island boating club (sailing?) + Public toilet + Locker + Public Shelter + Public car parking
Pahiki Reserve	03 Twin Wharf Road	1000028816	Private	Wharf											+ Pahiki Reserve-Res & Wharf Trust (SAP Description) + Same as above
Paremoremo Creek Esplanade Reserve	75 Iona Avenue	1000016172	Private	Boat Ramps											+ Dinghy Ramp (SAP description) + Located in park extent + Not shown on Geo maps assets
Pohutukawa Esplanade - 1	38 Pohutukawa Rd (Coast)	1000015369	Private	Wharf											+ Not publicly accessible + Proposed green route will pass through here
Pohutukawa Esplanade - 1	Pohutukawa Road	1000014189	Private	Boat Ramps											+ Not publicly accessible + Proposed green route will pass through here
Pohutukawa Esplanade - 1	18 Pohutukawa Road - Part Lot 3 DP 8224	1000018656	Private	Boat Ramps											+ Not publicly accessible + Proposed green route will pass through here
Pohutukawa Esplanade - 1	18 Pohutukawa Road - Part Lot 3 DP 8224	1000018661	Private	Boat Ramps											+ Not publicly accessible + Proposed green route will pass through here
Pohutukawa Esplanade - 1	38 Pohutukawa Road - Part Lot 6 DP 8224	1000022351	Private	Boat Ramps											+ Not publicly accessible + Proposed green route will pass through here
Rurawaru Esplanade	Mckean Road	1000012896	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Scott Esplanade	12 Scott Rd (Adjacent)	1000029421	Private	Wharf											+ Located in park extent + Not publicly accessible + Boat ramp shown on geomaps asset not wharf + Proposed green route will pass through here
Scott Esplanade	18 Scott Road - Lot 4 DP 89750	1000026842	Private	Boat Ramps											+ Boatramp not showing on Geomaps Aerial (Underwater?)
Scott Esplanade	8a Scott Road - Lot 3 DP 128652	1000029432	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Scott Esplanade	16a Scott Road - Lot 4 DP 89750	1000029437	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here
Scott Esplanade	12 Scott Road - Lot 3 DP 91914	1000039012	Private	Boat Ramps											+ Located in park extent + Not publicly accessible + Proposed green route will pass through here

DATA CAPTURE SPREADSHEET - PRIVATE FACILITY

Name	Location/Address	Asset/Equipment ID	Ownership	Structure Type	Tidal Access Restriction	Parking	Condition commentary	Condition rating	Rowing	Canoeing/ Kayaking/ Paddle board	Swimming	Fishing	Boating	Priority	Desktop and Site Review Comments
Totara Esplanade	93 Totara Rd (Coast)	1000015781	Private	Wharf											+ Located in park extent + Not publicly accessible + 2 boat ramp and 2 wharf
Totara Esplanade	93 Totara Road - Lot 2 DP 50045	1000015776	Private	Boat Ramps											+ Located in park extent + Not publicly accessible
Totara Esplanade	93 Totara Road - Lot 2 DP 50045	1000015786	Private	Boat Ramps											+ Located in park extent + Not publicly accessible
Wharf Road Esplanade	06 Twin Wharf Rd (Behind)	1000028593	Private	Wharf											+ Not publicly accessible
Wharf Road Esplanade	14 Twin Wharf Rd (Behind)	1000028598	Private	Wharf											+ Not publicly accessible
Wharf Road Esplanade	14 Twin Wharf Rd (Coast)	1000015805	Private	Wharf											+ Not publicly accessible

APPENDIX B

POPULATION DENSITY AND GROWTH MAPS

POPULATION GROWTH MAP

This map articulates the projected cumulative change in population density from 2016 - 2046 to illustrate key growth areas within the Upper Harbour Local Board area relative to play provision.

KEY

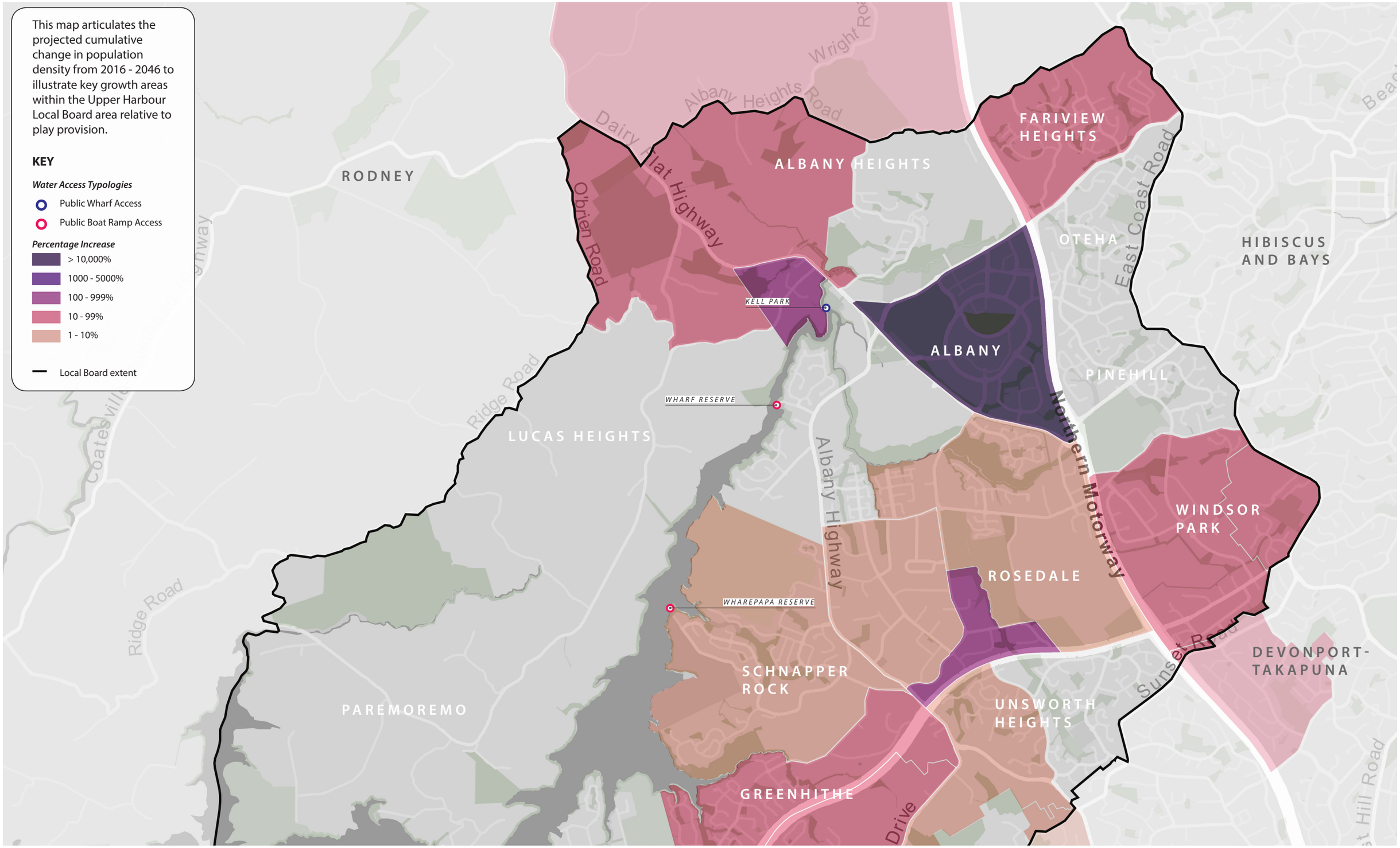
Water Access Typologies

- Public Wharf Access
- Public Boat Ramp Access

Percentage Increase

- > 10,000%
- 1000 - 5000%
- 100 - 999%
- 10 - 99%
- 1 - 10%

- Local Board extent



bespoke LANDSCAPE ARCHITECTS

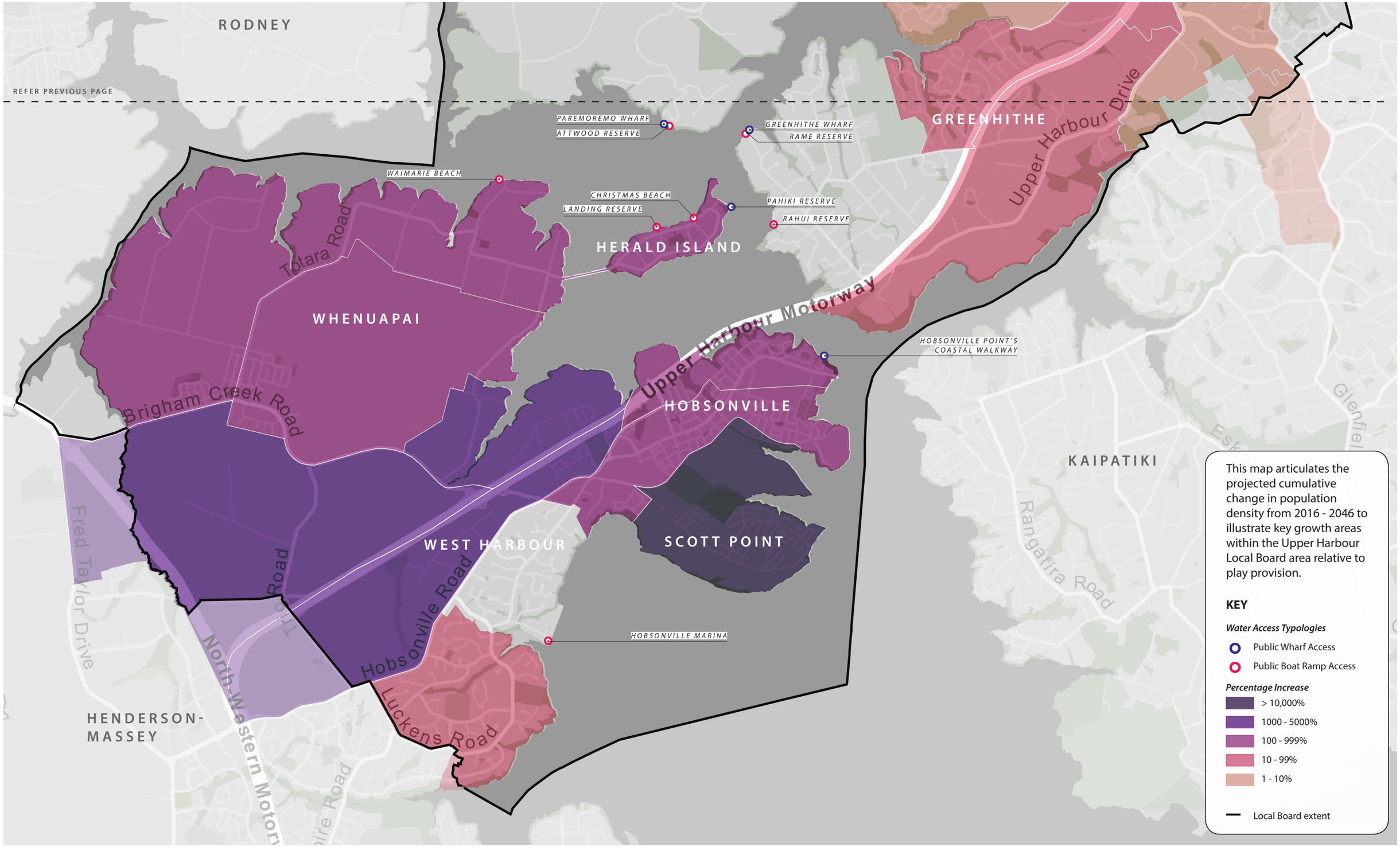
Auckland Council
Te Kaunihera o Tāmaki Makaurau

UPPER HARBOUR WATER ACCESS
1:20000 at A3

WATER ACCESS ASSESSMENT
Upper Habour Local Board

REV B
September 2019

i


RODNEY
REFER PREVIOUS PAGE
PAREMOREMO WHARF
ATTWOOD RESERVE
GREENHITHE WHARF
RAME RESERVE
GREENHITHE
Upper Harbour Drive
WAIMARIE BEACH
CHRISTMAS BEACH
LANDING RESERVE
PAHIKI RESERVE
RAHUI RESERVE
HERALD ISLAND
Totara Road
WHENUAPAI
Upper Harbour Motorway
HOBSONVILLE POINT'S COASTAL WALKWAY
Brigham Creek Road
HOBSONVILLE
KAIPATIKI
Fred Taylor Drive
WEST HARBOUR
SCOTT POINT
Hobsonville Road
HOBSONVILLE MARINA
North Western Motorway
Luckens Road
HENDERSON-MASSEY
Rangatira Road
This map articulates the projected cumulative change in population density from 2016 - 2046 to illustrate key growth areas within the Upper Harbour Local Board area relative to play provision.
KEY
Water Access Typologies
Public Wharf Access
Public Boat Ramp Access
Percentage Increase
> 10,000%
1000 - 5000%
100 - 999%
10 - 99%
1 - 10%
Local Board extent

EXISTING POPULATION DENSITY MAP

This map uses 2016 population projection data to articulate water access locations relative to existing population density.

KEY

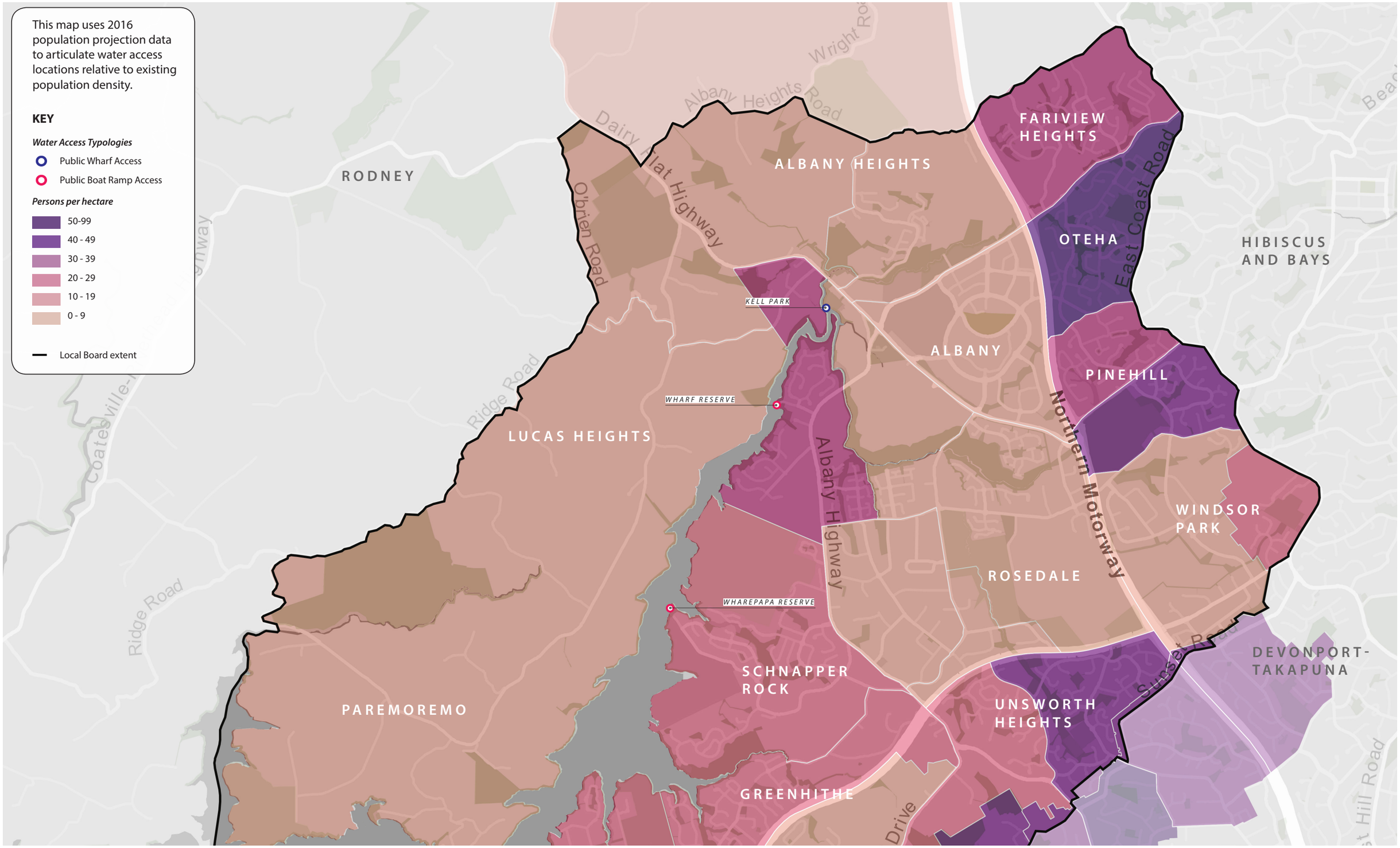
Water Access Typologies

- Public Wharf Access
- Public Boat Ramp Access

Persons per hectare

- 50-99
- 40 - 49
- 30 - 39
- 20 - 29
- 10 - 19
- 0 - 9

Local Board extent



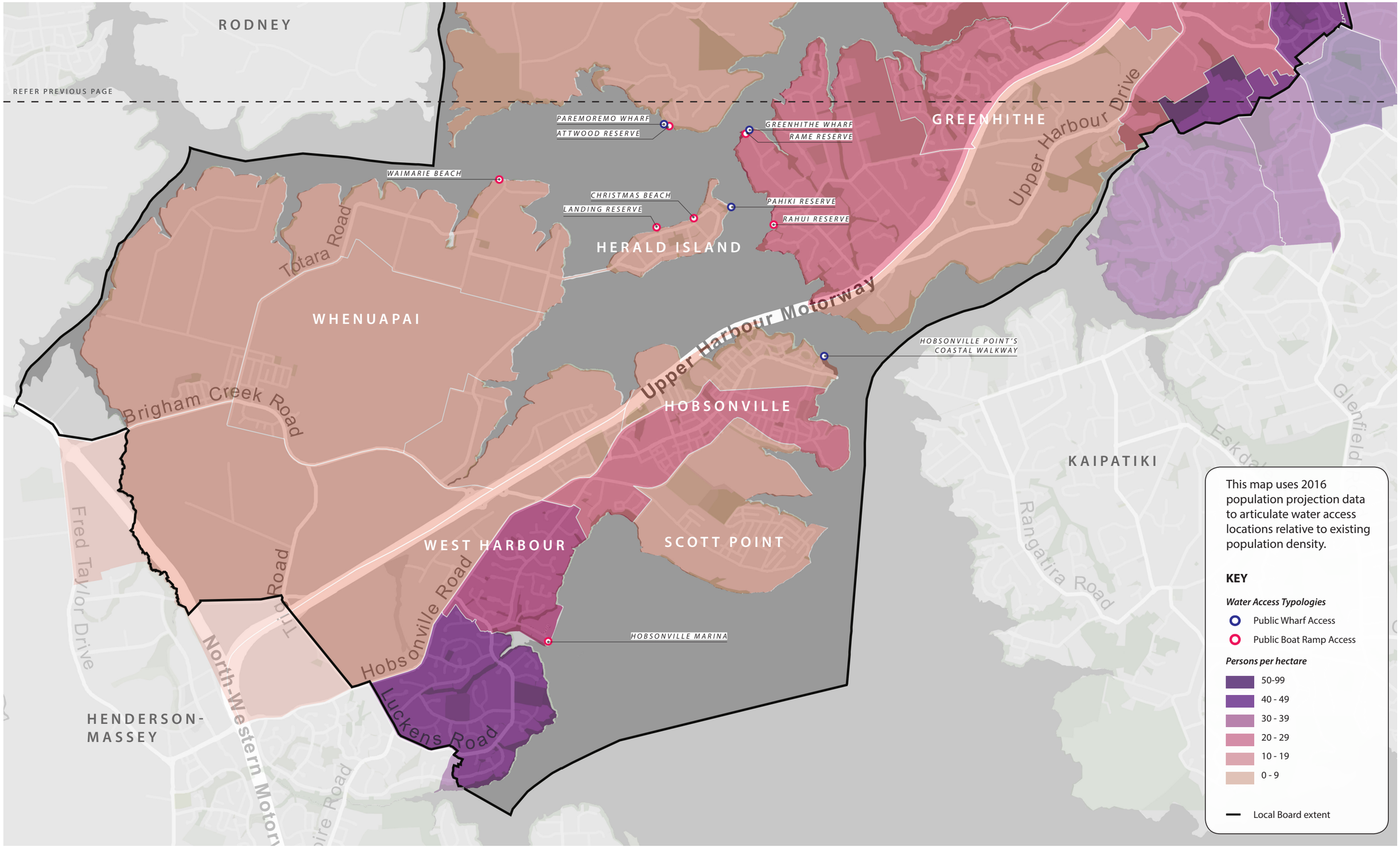
bespoke LANDSCAPE ARCHITECTS

Auckland Council Te Kaunihera o Tāmaki Makaurau

UPPER HARBOUR WATER ACCESS
1:20000 at A3

WATER ACCESS ASSESSMENT
Upper Habour Local Board

REV B
September 2019



bespoke
LANDSCAPE ARCHITECTS

Auckland Council
Te Kaunihera o Tāmaki Makaurau

UPPER HARBOUR WATER ACCESS
1:20000 at A3

WATER ACCESS ASSESSMENT
Upper Habour Local Board

REV B
September 2019

FUTURE POPULATION DENSITY MAP

This map uses 2046 population projection data to articulate water access locations relative to future population density.

KEY

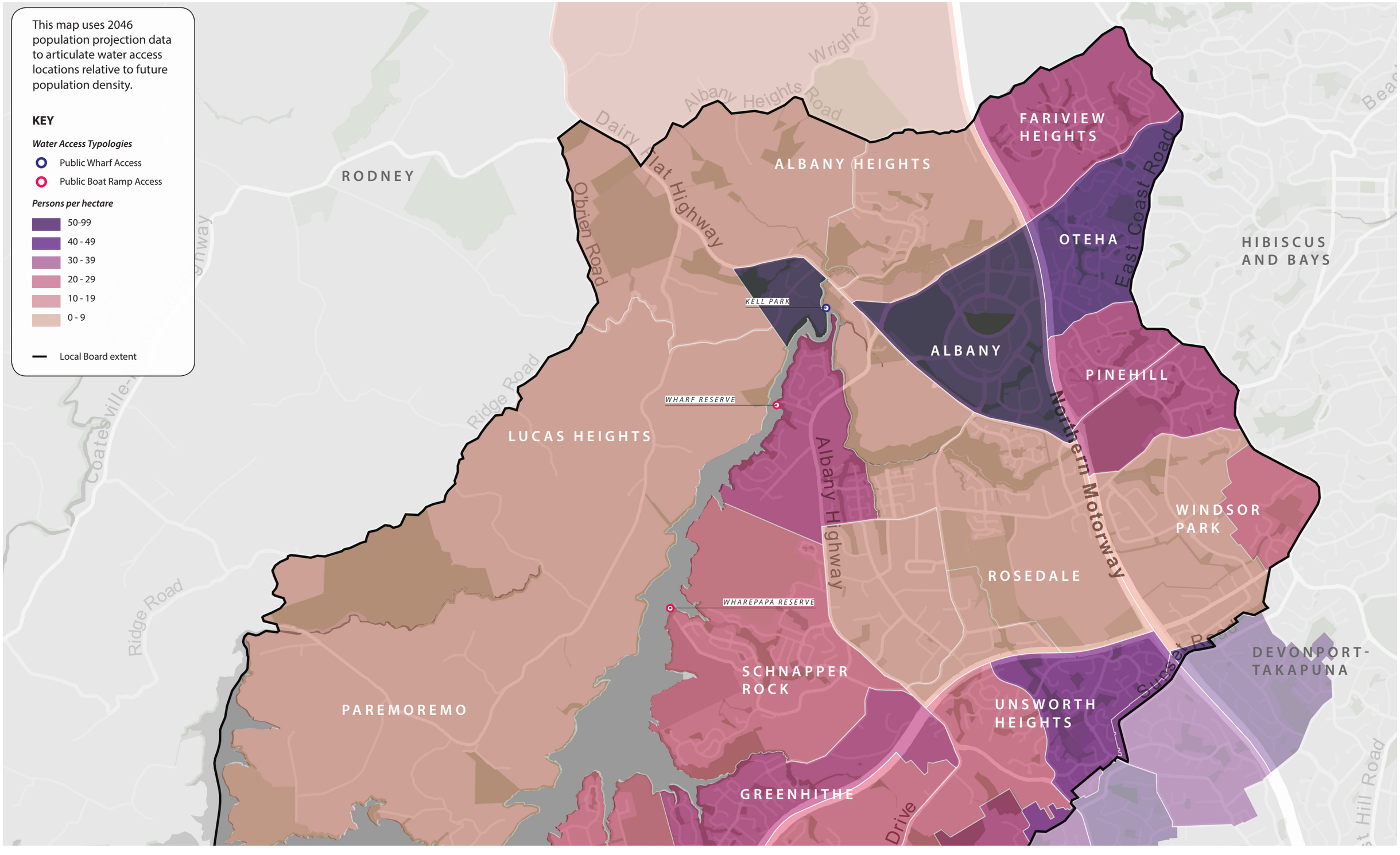
Water Access Typologies

- Public Wharf Access
- Public Boat Ramp Access

Persons per hectare

- 50-99
- 40 - 49
- 30 - 39
- 20 - 29
- 10 - 19
- 0 - 9

- Local Board extent



bespoke LANDSCAPE ARCHITECTS

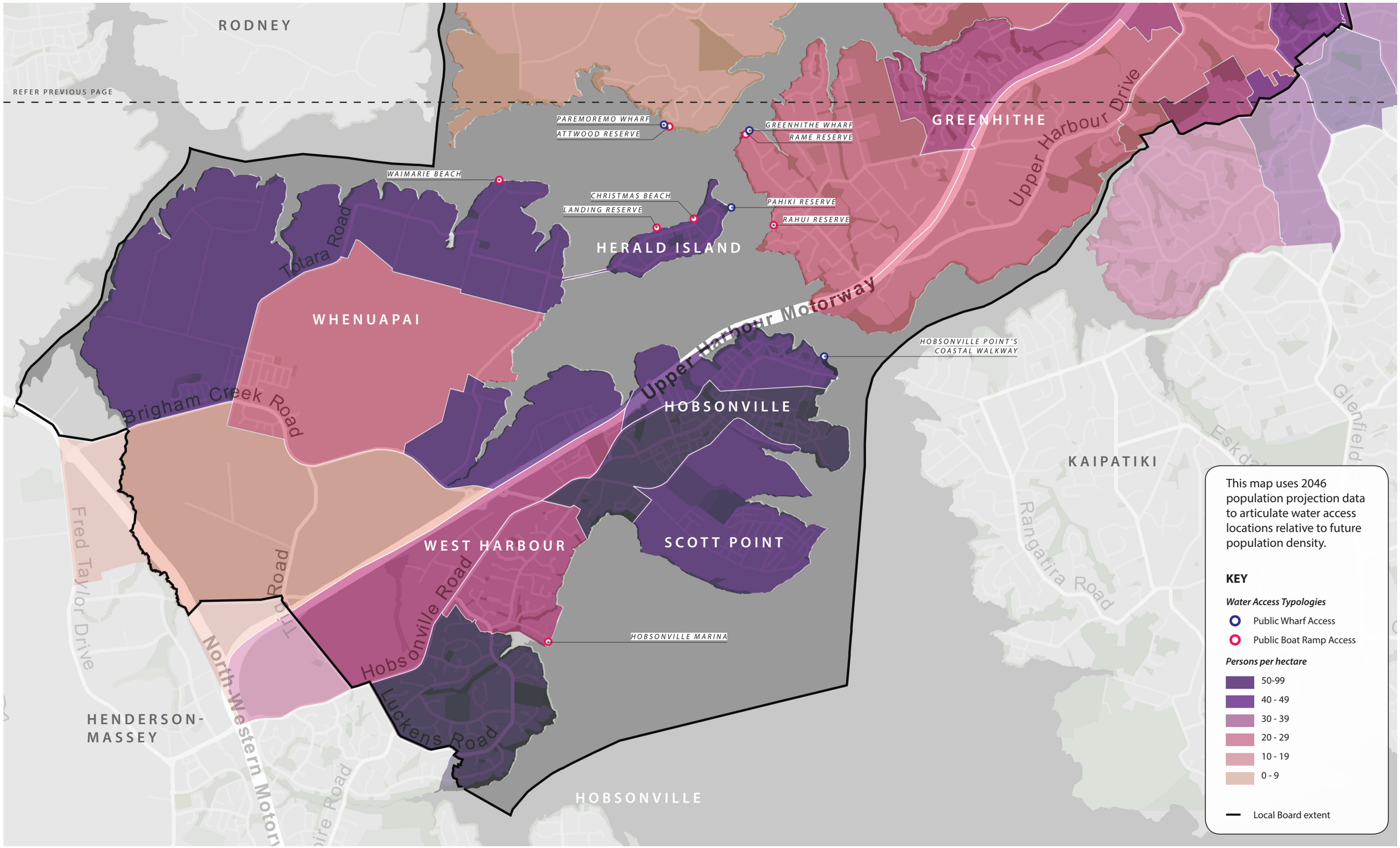
Auckland Council Te Kaunihera o Tāmaki Makaurau

UPPER HARBOUR WATER ACCESS
1:20000 at A3

WATER ACCESS ASSESSMENT
Upper Habour Local Board

REV B
September 2019

V



This map uses 2046 population projection data to articulate water access locations relative to future population density.

KEY

Water Access Typologies

- Public Wharf Access
- Public Boat Ramp Access

Persons per hectare

- 50-99
- 40 - 49
- 30 - 39
- 20 - 29
- 10 - 19
- 0 - 9

Local Board extent

bespoke LANDSCAPE ARCHITECTS

Auckland Council Te Kaunihera o Tāmaki Makaurau

UPPER HARBOUR WATER ACCESS
1:20000 at A3

WATER ACCESS ASSESSMENT
Upper Habour Local Board

REV B
September 2019

APPENDIX C

BIBLIOGRAPHY

BIBLIOGRAPHY

Auckland Council (2018). *Draft Auckland Plan 2050.*

Auckland Council (2017). *Auckland Sport and Recreation Strategic Action Plan 2014-2024. [Refreshed 2017]*

Auckland Council Regional Strategy and Policy Committee (2016). *Open Space Provision Policy*.

Auckland Council (2013). *Parks and Open Spaces Strategic Action Plan*

Auckland Council (2014). *Upper Harbour Local Board Profile: Initial Results from the 2013 Census*

Captivate Research & Communications (2014). *Auckland Council Northern Boat Ramps: Research Results*

Sport New Zealand and Auckland Council (2016). *Sport and Active Recreation in the Lives of Auckland Adults: Results from the 2013/14 Active New Zealand Survey.*

Sport New Zealand (2012). *Sport and Recreation in the Lives of Young New Zealanders.*

Upper Harbour Local Board (2013). *Sport and Recreation in the Lives of Young Aucklanders: Upper Harbour Local Board Area Report.*

Upper Harbour Local Board (2015). *Upper Harbour Greenways*

Upper Harbour Local Board (2017). *Upper Harbour Local Board Plan*

Upper Harbour Local Board (2018). *Draft Upper Harbour Open Space Network Plan*

Upper Harbour Local Board. *Upper Harbour Paddling Guide: Exploring the Northern Waitematā Harbour.* Available at: *https://www.aucklandcouncil.govt.nz/about-auckland-council/how-auckland-council-works/local-boards/all-local-boards/upper-harbour-local-board/Documents/upper-harbour-paddling-guide.pdf* [Accessed August 2019]

Visitor Solutions (2007). *Auckland Regional Paddling and Rowing Facilities Study*

APPENDIX 14
LANDSCAPE AND VISUAL EFFECTS ASSESSMENT

Boffa Miskell

Marine Sports & Recreation Facility: Hobsonville Point

Landscape and Visual Effects Assessment
Prepared for HLC

5 September 2019

Document Quality Assurance

Bibliographic reference for citation: Boffa Miskell Limited *2019*. *Marine Sports & Recreation Facility: Hobsonville Point: Landscape and Visual Effects Assessment*. Report prepared by Boffa Miskell Limited for HLC.		
Prepared by:	Kerttu Ots Associate Principal / Landscape Architect Boffa Miskell Limited	
Reviewed by:	Rachel de Lambert Partner / Landscape Architect Boffa Miskell Limited	
Status: FINAL	Revision / version: [0]	Issue date: 5 September 2019

Template revision: 20180621 0000

File ref: BM19249_Hobsonville MRC_LVEA_FINAL.docx

Cover photograph: Boffa Miskell, 2019

CONTENTS

Appendices

1.0 Introduction

This Landscape and Visual Effects Assessment (LVEA) has been prepared by registered Landscape Architects at Boffa Miskell Ltd (BML) to form part of the Resource Consent (RC) application for the proposed Marine Sports & Recreation Centre (MSRC) at Catalina Bay in Hobsonville Point.

The applicant, 'Homes. Land. Community' (HLC) has more than a decade of involvement in transforming the former Hobsonville NZ Air Force base into a new urban community at Hobsonville Point. Proposed re-development of Catalina Bay will convert this coastal edge location into a mixed-use residential, commercial, retail and hospitality hub on the north-eastern tip of the Hobsonville Peninsula.

There are three existing water recreation clubs based on the hardstand apron at Catalina Bay, being the Hobsonville Point Yacht Club, Sea Cadets and Westlake Boys High School Rowing Club, which will be relocated as part of the proposal forming the Hobsonville Point Marine Sports Recreation Centre ('MRC Trust'). The proposal is to rehouse these long-established marine recreation facilities / clubs providing boat storage and associated facilities including showers / toilets / changing facilities and meeting space / kitchen facilities to support the clubs.

The proposed site adjoins the landward edge to the immediate south of the Launch Road as it meets the coast, the building will sit out over the tidal edge on piles above the water / mud flats.

The proposed jetty based water access will allow the users of the MSRC all-tide access to launch rowing skiffs and small boats. Users will carry / trolley their boats down the jetty to the launch pontoon area. The jetty will also be accessible for public use and recreation, as will the ground floor deck.

A set of already approved coastal permits enable the dredging of the channel in this locality and will be relied upon by this proposal in order to shorten access to the deep-water channel.

This assessment relates to the landscape, including natural character of the coastal environment, and visual amenity effects resulting from the proposed MSRC.

HLC has considered alternative site locations for the MSRC, however, fully land-based options proved to be limited due to the local topography which results in very restricted land with a water interface or because of the distance to the deep-water channel.

The consideration of the potential landscape and visual effects of the proposal involves two separate but inter-related assessments:

- Effects on landscape character associated with the development relating to changes to the form, character and quality of the landscape resource and how it is experienced.
- Effects on visual amenity relating to changes in views and viewers' (communities / people's) response to changes in visual amenity.

The coastal nature of the subject site means that the natural character of the coastal environment (Part 2 Section 6(a) RMA) is also a relevant consideration, this is addressed under the landscape effects component of the report.

The assessment is based on the architectural drawings as prepared by Strachan Group Architects (SGA) that accompany the RC application.

The assessment is supported by two representative viewpoint visual simulations, produced by Boffa Miskell using 3D architectural model information provided by SGA, these are set out in Appendix 2.

2.0 Methodology and Approach

This assessment of landscape and visual effects has been undertaken with reference to a number of nationally and internationally recognised guidance documents. These include the Quality Planning Landscape Guidance Note[1] which contains signposts to examples of best practice including: the UK guidelines for landscape and visual impact assessment[2] and the New Zealand Landscape Institute Guidelines for Landscape Assessment[3]. This assessment has also been undertaken taking consideration of the Auckland Council Information Requirements for the assessment of Landscape and Visual Effects (September 2017)[4].

A full methodology statement is attached, refer **Appendix 1**. In summary, the assessment of the significance of effects identified within this assessment is based upon a seven-point scale which includes ratings of very low; low; moderate-low; moderate; moderate-high; high; and very high.

The landscape and visual effects generated by any particular proposal can be perceived as:

- Positive (beneficial), contributing to the visual character and quality of the environment.
- Negative (adverse), detracting from existing character and quality of environment; or
- Neutral (benign), with essentially no effect on existing character or quality of environment.

The degree to which landscape and visual effects are generated by a proposal depends upon a number of factors. These include:

- The degree to which the proposal contrasts, or is consistent with, the qualities of the surrounding landscape.
- The proportion of the proposal that is visible, determined by the observer's position relative to the objects viewed.
- The distance and foreground context within which the proposal is viewed.
- The area or extent of visual catchment from which the proposal is visible.
- The number of viewers, their location and situation (static or moving) in relation to the view.
- The backdrop and context within which the proposal is viewed.
- The predictable and likely known future character of the locality.

[1] http://www.qualityplanning.org.nz/index.php/planning-tools/land/landscape

[2] Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, 2013

[3] Best Practice Note Landscape Assessment and Sustainable Management 10.1, NZILA

[4] http://www.aucklanddesignmanual.co.nz/resources/tools/landscapeandvisualeffectsassessment

- The quality of the resultant landscape, its aesthetic values and contribution to the wider landscape character to the area.

Change in a landscape does not, in itself, necessarily constitute an adverse landscape or visual effect. Landscape is dynamic and is constantly changing over time in both subtle and more dramatic transformational ways. These changes are both natural and human induced. What is important in managing landscape change is that adverse effects are avoided or sufficiently mitigated in order to ameliorate the effects of the change in the landscape.

Furthermore, it is not the case that simply seeing an object automatically leads to the generation of an adverse visual effect. To result in an adverse visual effect the proposal would need to introduce a component of incongruity or a scale of development which is out of kilter with the existing or reasonably anticipated nature of the environment.

Prior to undertaking this assessment, a desktop study was completed which included a review of the relevant information relating to the landscape and visual aspects of the proposal. This information included:

- Technical information supplied by SGA relating to the proposed development;
- AUP OIP[5] including relevant planning maps;
- AC Geomaps[6]; and
- Aerial photography.

Following the desktop study, a site inspection was carried out on 27 March during high tide and on 14 June 2019 during low tide. On water photography from the Upper Waitemata Harbour was carried out on 10 April. The writers are generally familiar with the locality having undertaken multiple previous assessment projects in this part of Hobsonville Point as well as visits for social / recreational purposes. The site visits enabled the assessors to understand the location of the proposal, the specific site conditions and local character and the relationship of the site to the surrounding topography, buildings and vegetation; the areas recreational use, and the likely visibility of the subject site / proposed development. Key landscape features and sensitive viewer locations were also identified during the field survey.

[5] http://unitaryplan.aucklandcouncil.govt.nz

[6] https://geomapspublic.aucklandcouncil.govt.nz

3.0 Planning Context

3.1 Resource Management Act

The purpose of the Resource Management Act (RMA) is to promote the sustainable management of natural and physical resources.

Section 6 of the RMA sets out matters of national importance that must be recognised and provided for when exercising functions and powers under the RMA. Section 6(b) of the RMA requires the protection of outstanding natural features and landscapes from inappropriate subdivision, use and development.

The site does not lie within an identified outstanding natural feature (ONF) or landscape (ONL) and these have not been identified adjacent to the proposal site or within its wider landscape context.

The preservation of the natural character of the coastal environment, including the coastal marine area (CMA), and its protection from inappropriate subdivision, use and development, section RMA sn6(a); and the maintenance and enhancement of public access to and along the coastal marine areas in section 6(d) are relevant to the proposal.

Section 7 identifies a range of matters that shall be given particular regard in achieving the purpose of the RMA. Of relevance to this proposal is section 7(c) the maintenance and enhancement of amenity values.

3.2 The New Zealand Coastal Policy Statement

The purpose of the New Zealand Coastal Policy Statement 2010 (NZCPS) is to set out objectives and policies in order to achieve the purpose of the Act in relation to the coastal environment of New Zealand. The NZCPS includes a number of policies relevant to this proposal. Policies 13 and 15, as set out below are relevant:

> *Policy 13 Preservation of natural character*
>
> *To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:*
>
> *(a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and*
>
> *(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment…*

3.3 Auckland Unitary Plan - Operative in Part

The proposed site is subject to the Auckland Unitary Plan Operative in Part (AUP OIP) provisions. The proposed development lies within the coastal environment, objectives and policies in respect of Natural Character and General Coastal Marine Zone are, therefore, also applicable.

Plate 1: Extract from AUP OIP zoning. The site's land-based area is zoned as Open Space Informal Recreational and its water-based part lies within both the General Coastal Marine zone (blue area) and the Marina Zone (blue and purple hatch area).

F2 Coastal - General Coastal Marine Zone

F2.16.3. Policies

(7) Require structures in the Coastal – General Coastal Marine Zone to be located to minimise:

(b) adverse effects on recreational use, including popular anchorage areas;

(c) adverse effects on public access to and along the coastal marine area;

(d) visual impacts, particularly in areas sensitive to effects such as headlands or the outer edges of enclosed bays, as seen from both land and water;

(e) the size of the structure, including its size in relation to wharves and jetties and consider providing for partial rather than all-tide access, unless this is not a practicable option given the function and frequency of use;
(8) Require structures to be designed to:

(f) minimise impacts on natural character and amenity values and generally fit with the character of any existing built elements, including in the use of materials and colours having regard to safety requirements;

(g) *have regard to the value of retaining the natural character of areas where structures are absent, taking into account the area's uniqueness and value because of the absence of structures.*

The AUP addresses natural character in Chapter B – Regional policy statement (B4 and B8) and Chapter E – Auckland-wide (E18 and E19). These chapters collectively give effect to the RMA in relation to the natural character of the coastal environment as well as the maintenance and enhancement of amenity values afforded protection under Section 6(a) and (b), and Section 7(c) respectively.

B8.2. Natural character

B8.2.1. Objectives

(2) Subdivision, use and development in the coastal environment are designed, located and managed to preserve the characteristics and qualities that contribute to the natural character of the coastal environment.

(3) Where practicable, in the coastal environment areas with degraded natural character are restored or rehabilitated and areas of high and outstanding natural character are enhanced.

(4) Avoid significant adverse effects and avoid, remedy or mitigate other adverse effects on natural character of the coastal environment not identified as outstanding natural character and high natural character from inappropriate subdivision, use and development.

B8.4. Public access and open space

B8.4.1. Objectives

(1) Public access to and along the coastal marine area is maintained and enhanced, except where it is appropriate to restrict that access, in a manner that is sensitive to the use and values of an area.

(2) Public access is restricted only where necessary to ensure health or safety, for security reasons, for the efficient and safe operation of activities, or to protect the value of areas that are sensitive to disturbance.

(3) The open space, recreation and amenity values of the coastal environment are maintained or enhanced, including through the provision of public facilities in appropriate locations.

B8.4.2. Policies

(1) Subdivision, use and development in the coastal environment must, where practicable, do all of the following:

(a) maintain and where possible enhance public access to and along the coastal marine area, including through the provision of esplanade reserves and strips;

(b) be designed and located to minimise impacts on public use of and access to and along the coastal marine area;

(c) be set back from the coastal marine area to protect public open space values and access; and

(d) take into account the likely impact of coastal processes and climate change and be set back sufficiently to not compromise the ability of future generations to have access to and along the coast.

(2) Provide for a range of open space and recreational use of the coastal environment by doing all of the following:

(a) identifying areas for recreational use, including landbased facilities for those uses, where this ensures the efficient use of the coastal environment;

(b) enabling the provision of facilities in appropriate locations that enhance public access and amenity values;

(c) enabling Māori cultural activities and customary use; and

(d) managing uses to avoid conflicts and mitigate risks.

Public Open Space – Informal Recreation

H7.5.2. Objectives

(4) Small-scale, informal land-based water-related recreational facilities are provided for while maintaining and enhancing public access to and along the coast

H7.5.3. Policies

(2) Maintain or enhance the natural character values of open spaces by retaining significant vegetation (where appropriate and practical) and through weed removal, new planting and landscaping.

(4) Limit buildings, structures and activities to those necessary to enhance people's ability to use and enjoy the open space for informal recreation.

(9) Avoid use and development in locations adjoining the coast or water bodies

where they will have more than minor adverse effects on any of the following:

(a) public access;

(b) the visual amenity values of the coast and water bodies;

(c) areas of high natural or historic heritage value; or

(d) Mana Whenua values

3.4 Background

In 2010, twenty-two separate coastal permits were granted in the CMA (refer Plate 1) of Catalina Bay, which allowed for a large number of construction and disturbance activities extending to the main navigable channel. It included carrying out marina based activities, the disturbance of the foreshore during construction, capital and maintenance dredging, the erection of structures (including a public ferry wharf, marina, moorings, launching facility, beach, boardwalks, capital dredging, maintenance dredging, mangrove removal and enhancement of a chenier ridge), mitigation measures for the loss of bird habitat, and occupation of the CMA for the purposes of operational, recreational and amenity management purposes.

The area the proposed MSRC building will occupy is part of the consented 70m long public beach immediately to the south of the site, which was envisioned as being available for swimming and other recreational activities at all stages of the tide. We understand that HLC will surrender some of these permits once the necessary approvals for the proposal have been secured.

A recreational boat ramp and launch facilities in the CMA were authorised by the consent to the north of the beach, on the axis of Launch Road. A timber jetty, gangway and concrete pontoons

were proposed on the axis of Launch Road as part of the previous consent related to the then anticipated launching of boats from the Marine Industrial Precinct.

The water-based area of the proposed site is covered by the separate dredging consent, which is part of a total of 230,000m^3 of "capital dredging' consent over an area of 83,000m^2 in the CMA of Catalina Bay.

4.0 Site Context

4.1 Site Location

The site is located on the east facing coastal edge of Harrier Point, on the north-eastern side of the Hobsonville Peninsula. The land-based part of the site comprises a narrow coastal strip which abuts Boundary Road to the west, the water-based site area extends over the tidal margin of Catalina Bay. The foreshore of Catalina Bay consists of mudstone or sandstone with a thin covering of mud (refer Photo 1). The water-based portion of the site comprises the coastal stretch of Catalina Bay from Hobsonville Wharf to the south of the existing Yacht Club.

The flat coastal edge of Catalina Bay is backed to the west by an approx. 12m high vegetated coastal escarpment. The landform and related vegetation form a backdrop to the site and accordingly landward enclosure, restricting visibility between the site and the rest of the peninsula to the west. The flat narrow coastal platform at the foot of the escarpment was formed as a result of the modification to the landform from 1950, in order to put in place Boundary Road. The seaward edge of the roadside is vegetated by manuka, kanuka shrubland and flax (refer Photo2).

Boundary Road is now known as Hobsonville / Onekiritea Coastal Walkway - Te Ara Manawa. The walkway was officially opened in 2018, with the purpose of providing dedicated pedestrian access between The Landing / Catalina Bay and Bomb Point / Onekiritea.

Launch Road forms the site's northern land-based boundary (refer Photo 3), which also provides access to The Landing sub-precinct / Catalina Bay development area. The site is physically separated from the main development area at Catalina Bay set around the corner to the south. The existing Yacht Club buildings (refer Photo 4) on the northern edge of the reclaimed apron will be removed enabling the future development of a consented small footprint residential apartment building, that building has been designed by Cheshire Architects with Willis Bond as developers.

The site has an open seaward aspect to the east onto the tidal waters of the Upper Waitemata Harbour and across the Catalina Bay waterspace, towards the bush-lined coastal margin of Beach Haven peninsula to the east (refer Photos 1 and 3).

Photo 1: The photo is taken from the water margin next to Boundary Road which defines the site's western boundary. In the foreground, tidal mud flats and some small form the intertidal zone. Across Catalina Bay the Beach Haven coastline forms the landward backdrop and skyline to the east. Through the Harbour channel to the south east the Isthmus of Auckland is just discernible.

Photo 2: The photo is taken at the intersection of Boundary Road with Launch Road, looking to the south along Boundary Road / the Hobsonville / Onekiritea Coastal Walkway - Te Ara Manawa, which defines the site's western boundary. The coastal edge vegetation within the site area will be removed.

Photo 3: The photo is taken at the bottom of Launch Road, looking over the roundabout at the eastern end of the road. The site's northern land-based corner is defined by the existing car park. This slightly elevated viewpoint allows long distance views along the Harbour navigation channel to the south towards the Isthmus of Auckland. In the view to the east across Catalina Bay the bush-lined coastal margin of Beach Haven forms the skyline.

Photo 4: This photo is taken from Boundary Road / Te Ara Manawa walkway which defines the site's western boundary looking north. The existing Hobsonville Yacht Club buildings are visible beyond the access barrier with the backdrop of the vegetated escarpment of Greenhithe across the harbour to the north. The existing Yacht Club buildings will be replaced by the consented Cheshire Architects apartment building. Views of the harbour are partially screened by roadside vegetation. A glimpse of Oruamo (Hellyers Creek) to the north east is perceivable, drawing the eye towards the distance.

4.2 Wider Landscape Context

In a wider landscape / seascape context, the site lies within the upper reaches of Waitemata Harbour, where its deep water coincides with a narrowing of the water expanse between Hobsonville Peninsula in the west, the Beach Haven Peninsula in the east and Greenhithe to the north.

The upper reaches of the Harbour, including the Hobsonville Peninsula, are characterised by an irregular coastline with a series of promontories and small-scale inlets and bays. These sheltered, small scale natural harbours provide suitable mooring conditions for small boats that contribute a human presence to this part of the Upper Harbour, the landward catchments of which are largely urbanised.

The waters between Hobsonville and Beach Haven (including the Hellyers Creek margins) include a range of marine structures. The harbour channel is traversed by the major transportation link of the Upper Harbour Bridge on the SH18 / Upper Harbour Drive (approx. 700m to the north west of the site), Beach Haven ferry pier extends on the eastern side of the channel (approx. 500m to the east of the site), and Hobsonville ferry terminal at The Landing (approx. 260m to the north west).

The Landing site, which adjoins with the site to the north, was developed as part of the RNZAF sea plane facilities, providing water access for seaplanes and vessels associated with air base operations. The Landing was formed by reclamation cutting into the original escarpment with the fill creating a platform extending beyond the original shoreline.

At present, the Landing accommodates the recently established public Ferry Terminal, the refurbished Sunderland Hangar, adaptive re-use of the Catalina Hangars and the Hobsonville Yacht Club (the site of the consented Willis Bond Cheshire Architects apartment building). Other parts of the area are currently under re-development with the intended creation of a public plaza and associated other development, The Landing is intended as a mixed-use social heart of Hobsonville Point and public transport interchange (bus to ferry). The previous marine recreation sports facilities in the locality will be displaced as part of this re-development.

The consented Launch Bay residential development[7] will appear on more elevated land above the escarpment, to the west, beyond the Landing development. Alongside five to seven storey apartment buildings this proximate development includes a 15-storey apartment tower, adjacent to Launch Road at the interface between The Landing and Sunderland sub-precincts[8].

The future development will introduce a new, more intensive and increased scale of built form, which will form a more varied stepped skyline in views from the Upper Harbour navigation channel. The Airfield Hangar (refer Photo 5) already appears as a prominent feature on the skyline in views from the harbour. In the future the new development of the Airfields sub-precinct will appear alongside the hangar, and further on to the south west the new development of Catalina Bay sub-precinct will extend above the lower vegetated coastal edge (refer Photo 5).

The envisioned / consented development creates an anticipated environment for the proposal. Consequently, the assessment of the potential effects of the proposed MSRC facilities can be considered in the context of this receiving environment.

The key landscape characteristics of the area include the following:

[7] Previous Marlborough precinct

[8] I605.10. Precinct plans I605.10.1. Hobsonville Point: Precinct plan 1 - Hobsonville Point precinct plan

- Irregular coastline with a series of promontories / headlands and small-scale inlets and bays;
- Visual prominence of coastal escarpments and vegetation which frame the harbour channel;
- Coastal margins with an almost continuous cover of vegetation with development on the skyline above;
- Historically reclaimed / modified coastal edge;
- The extensive tidal coastal flats of Catalina Bay;
- A range of larger scale more visually prominent buildings, some historically associated with the NZRAF airbase and others with the more recent and continuing urban re-development of Hobsonville Point;
- The Landing precinct emerging mixed use / commercial area and ferry terminal;

Photo 5: This photo is taken from the main navigation channel of the Upper Waitemata Harbour, where ferries operate, accessing terminals at Hobsonville Point and Beach Haven Wharfs. The site location on the coastal edge is distinguishable by the prominent group of trees on top of the escarpment which sits on the landward side of the site.

5.0 Proposed Development

The proposal is to rehouse the facilities of the existing rowing / yacht clubs into a single shared Marine Recreation facility with associated boat storage and amenities. The proposed pedestrian jetty based water access will allow the users of the Marine Recreation Centre all-tide access to launch rowing skiffs and small yachts during any tide. The water access jetty and deck area will also be accessible for public use and recreation.

The proposed MSRC building is two storeyed with a north south rectangular footprint, comprising approximately 972m² in area. The upper floor will comprise half of the footprint of the ground floor, being stepped to the south and east reducing the scale of both the western and east facing façades. The roof form slopes toward the water setting the building against the vegetated escarpment behind.

The upper floor will contain a community room / social area that flows onto a deck which wraps around the northern end and eastern, water-edge, side of the building. The deck will form a canopy above the entrance to the boat storage area on the lower floor. The ground floor will provide storage for both rowing skiffs and small sailing boats with bathrooms and additional storage for the Sea Cadets.

The majority of the building is built out over the CMA on piles. The outer row of piles is set back from the cantilevered edge of the building.

The eastern water facing ground floor facade will be clad in translucent Danpalon polycarbonate panels and bright white pre-painted profiled metal walls. The first-floor glass balustrade elevates the translucent range of finishes up on the northern end of the building, where the deck provides desirable overlooking of Catalina Bay. The north facing entrance frontage includes diversity of glazing, perforated aluminium screens and rusticated timber weatherboards. This brings a more contemporary approach to the façade with well managed diversity.

The dark profiled overhanging roof structure of the western elevation contrasts with the ground floor elevation yellow painted fibre cement sheets.

The external deck, where boats will be rigged comprises an approx. 400m² area to the north of the Marine Centre building, this leads to the Jetty and provides steps to the public area at the southern end of the existing sea wall.

The proposed jetty, consisting of a deck on timber piles will extend 95m out from the sea wall on the same axis as Launch Road, before angling slightly north for an additional 35m to reach the dredged basin connected to the harbour channel. The Jetty design will maintain an open view of the navigation channel from Launch Road.

From the end of the jetty a 3m wide floating aluminium gangway will extend 28m down to the 30m x 5m floating concrete pontoon. The pontoon piles will be timber wrapped in high-density polyethylene (HDPE) sleeves.

Vehicle access to the facility is from Boundary Road, with the entrance being managed via retractable bollards. The bollards will secure and demarcate the pedestrian zone between the Launch Road roundabout and the boat rigging area on the site's northern boundary. This pedestrian zone connects Boundary Road - Te Ara Manawa walkway and the Esplanade walkway along the seawall.

The architects, SGA, have identified the following key design moves through which they have sought to reduce the potential visual impact of the proposed coastal edge building:

- By layering and stepping the building back towards the high vegetated escarpment to the west, which forms a high solid green backdrop and retains its prominence in views from the channel.
- By the proposed cladding material and colour palette using two shades of green tone Colorsteel, being 'Lichen' and 'Karaka', plus translucent polycarbonate sheet, to create a visually recessive architectural response to the highly reflective water context.

6.0 Visual Catchment and Viewing Audience

The proposed building is set against and below the vegetated headland escarpment of Harrier Point resulting in very limited visibility / extent of visual catchment from landward locations including 'The Landing' sub-precinct. The building will be experienced from within a small proximate visual catchment at the end of Launch Road and Boundary Road / Te Ara Manawa walkway and to a small degree from further south to Te Onekiritea Point / Bomb Point, (refer Photo 6), where gaps in existing vegetation enables views.

The proposed water access jetty will be visible on axis from the last section of Launch Road as it grades down toward the water edge.

From the coastal waters of the Upper Waitemata Harbour, including the more distant main channel and ferry access route the proposed building will be visible set against the vegetated escarpment behind.

Based on the above the site has a limited visual catchment comprising the following viewing audiences:

- People on the harbour accessing the deep-water channel passing the site;
- People on Boundary Road - Coastal walkway Te Ara Manawa passing the proposed development;
- Residents and visitors of the consented Cheshire building on the site of the existing Yacht Club; and
- People on Launch Road approaching its eastern end, which is on an axis with the proposed Jetty.

Photo 6: This photo is taken from the walkway on the coastal edge of Te Onekiritea Point / Bomb Point, approximately 400m to the south of the site. The Beach Haven Ferry Terminal is visible on the eastern side of the Harbour channel and the existing Hobsonville Yacht Club buildings appear in front of the backdrop of the vegetated escarpment of Greenhithe to the north. The existing Yacht Club buildings will be replaced by the consented Cheshire building.

6.1 Representative Viewpoints

The representative viewpoints have been selected to illustrate both land and water-based views as set out below and shown on the Viewpoint Location Plan (Appendix 2).

- Viewpoint 1 – a land-based view capturing people on Launch Road approaching the eastern end of the roadway on the coastal edge of Catalina Bay (refer VS1 Appendix 2); and
- Viewpoint 2 – a water-based view capturing people on the ferry, as well as private boats / yachts on the Upper Harbour in the main navigation channel (refer VS2 Appendix 2).

Visual Simulations have been prepared from these two representative viewpoints, they form part of the method for the assessment of potential landscape and visual amenity effects. The visual simulations are attached within the Graphics Supplement, Appendix 2.

7.0 Assessment of Landscape, Natural Character and Visual Amenity Effects

Landscape and visual impacts result from natural or induced change in the components, character or quality of landscape. Usually these are the result of landform or vegetation modification or the introduction of new structures, activities or facilities into the landscape. The process of change itself, that is the construction process and/or activities associated with the development, also carry with them their own visual impacts as distinct from those generated by a completed development.

This assessment of landscape and visual amenity effects addresses the potential effects generated by the proposed MSRC building and associated water-based structures as described in section 5.

7.1 Landscape Effects

There are no identified areas of landscape significance – either outstanding natural features or landscapes (ONF or ONL) or areas of outstanding or high natural character (ONC or HNC) – in the proximity of Catalina Bay and the subject site. In addition, the Upper Waitemata Harbour is not covered by any specific landscape protection overlays. The harbour is used for a range of water based recreational activities and comprises the northern extent of public ferry services on the Harbour – to Hobsonville Point and Beach Haven.

The proposed marine recreation centre development located within an area zoned Public Open Space – Informal Recreation is in keeping with the zone objective of providing for public recreation activities. As such there could be an expectation for facilities that support land-based and water-related recreational activities while maintaining and enhancing public access to, and along, the coast. Furthermore, the proposal provides a new and permanent home for marine recreation clubs that have long operated from this part of Hobsonville Point including pre-dating the areas urban re-development.

The proposal site lies adjacent to The Landing (Business – Mixed Use zone) which is intended for urban development and urban renewal, forming an obvious node integrated with the ferry terminal and pier and PT bus interchange. A higher density of residential development is intended in support of that commercial / transport hub including on the adjacent elevated land – with THAB zoning covering the Sunderland sub-precinct and Airfield sub-precincts[9].

The Landing has a long association with water access, being originally formed through reclamation to support the amphibious aircraft of the NZ Airforce. The boat ramps associated with The Landing have provided for club based marine recreation including rowing and yachting with the proposal seeking to maintain these recreational activities alongside the urban regeneration of Hobsonville Point. This long relationship of this part of the coastline with water access for both the NZ Airforce and recreational activities reduces the site's sensitivity to the nature of change to the coastline proposed as part of this development.

The nearby consented residential apartment buildings – the Cheshire building – located on The Landing and replacing the current Yacht Club facility as well as further adjacent residential apartment development – the Architectus building (both by developers Willis Bond) will consolidate and extend the already established highly modified land and-water interface of the locality.

Physical access to the proposed MRC building will utilise existing formed vehicle and pedestrian accessways including the public waterfront walkway which will bring its users adjacent to the proposed development.

The introduction of the proposed structures and facilities, including the jetty / pontoon and the MRC building itself, will serve to slightly extend the built-up coastal edge at The Landing and reinforce the maritime character of Catalina Bay. Having said this the two-storey clubhouse and boat storage facility will remain strongly backdropped by the well vegetated landward escarpment Harrier Point.

A small amount of previously planted and naturally regenerating native coastal vegetation will be removed but this is of small stature and is not of note in the context of the extensive harbour edge enhancement underway at Hobsonville Point.

In terms of potential landscape effects, therefore, the proposal is considered to sit comfortably within its landscape context with a low level of prominence and a dominant landward backdrop. A new building and marine structures for public water access will extend further around the coastline but they will be strongly associated with the node of water focussed development at The Landing, the end of Launch Road and the public coastal walkway.

The proposed structures will provide for club-based public recreational access and amenity reliant on a water edge location and water access. In this respect the proposal will not be out of context in its established and anticipated landscape setting and will reinforce the coastal public amenity of Hobsonville Point.

7.2 Natural Character Effects

The preservation of the natural character of the coastal environment is provided for under s6(a) of the RMA and through the New Zealand Coastal Policy Statement (NZCPS).

Guidance prepared by the Department of Conservation as to how NZCPS Policy 13 is applied, identifies that the degree or level of natural character depends on:

[9] I605.10. Precinct plans I605.10.1. Hobsonville Point: Precinct plan 1 - Hobsonville Point precinct plan

1. The extent to which the natural elements, patterns and processes occur;

2. The nature and extent of modification to the ecosystems and landscape/seascape;

3. The degree of natural character is highest where there is least modification;

4. The effect of different types of modification upon natural character varies with context and may be perceived differently by different parts of the community

Natural character is accepted to exist over a wide spectrum, from pristine natural environments where no discernible modification or disruption to natural elements, patterns and processes occurs, through to locations that are highly modified, dominated by coastal structures and human activity. The subject site falls toward the modified end of the spectrum with an adjacent road – Launch Road – and public walkway and its close association with The Landing and the wider, rapidly establishing urban area of Hobsonville Point.

In terms of a slightly wider coastal context the Hellyers Creek coastal escarpment, 700m to the north west of the site, together with its large tracts of native shrubland, mangroves and inter-tidal flats, are identified as an area of High Natural Character (HNC) in the AUP (refer Viewpoint Location Context Map[10]). However, this area has limited contact or association with Catalina Bay and there are no other areas of landscape or natural character significance identified in the vicinity.

The Hobsonville Point Peninsula has approximately 4km of coastal edge with considerable length and variety / qualities. The northern coastline of the peninsula (zoned Open Space – Conservation), comprises a steep coastal escarpment which is lined by pohutukawa trees, native shrubs and within the tidal margins, mangroves. This coastal environment has retained more of its natural qualities than the substantially more modified, Catalina Bay. Part of the Catalina Bay coastline has been historically reclaimed from the harbour resulting in significant modification to the natural character of this part of the coastal environment.

The proposal will follow a pattern of coastal edge development which has been long established at Catalina Bay. The proposed jetty and gangway, extending some 95m and 28m respectively from existing sea wall out to the dredged forebay adjacent to the deep-water channel will alter the natural character of the coastal environment as will the adjacent and inter-related MRC building. The proposed building will sit out over the tidal edge of the coastline resulting in a small amount of mangrove removal and piling in the intertidal zone. At the same time, it is recognised the approved coastal permits contemplate more industrial water-based boat launching structures associated with the Marine Industrial Precinct on the Harrier Point headland. Hence the presence of structures in this coastal location has been foreshadowed for some time. The proposed structures have the benefit of public access and functionality related to public recreation – including club-based rowing and sailing.

These structures will support public access to the coastline and the water for recreational use and have been designed to sit modestly into their coastal context. The form of the MRC building responds to the coastal edge with the roofline tapering toward the water. The proposed colour scheme is designed to sit the building into its vegetated coastal escarpment backdrop. The curtilage, including the deck and jetty access are open to the public and designed to facilitate the public enjoyment of the coastal environment supporting the growing urban population of this now well-established brownfield urban regeneration area. Whilst leading to a further modification of the coastline the proposal is considered appropriate both as a replacement for existing coastal edge structures proposed to be removed, and as a new, purpose designed and built marine recreation facility.

[10] Appendix 2: Graphic Supplement

It is therefore considered that the proposed MRC structures will not be inconsistent with the already modified natural character of this part of the Upper Harbour coastline.

The proposed new facilities will have a limited additional impact in terms of the natural character of the coastal environment, due to the already modified nature of the locality and the way in which the waterfront is already experienced as a key node of built development and activity on the harbour edge at Hobsonville Point. The proposed structures will be perceived within an established context of development and will provide a desirable public recreational service that has long association with the locality. The naturalness of the immediate locality will be modified and reduced however this modification will be consistent with the range of local coastal modification including boardwalks, coastal walkways, roads and built development.

7.3 Visual Amenity Effects

Visual effects relate to the amenity values of a landscape including the "natural and physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes"[11] .

The nature of the visual change associated with this proposal relates to the introduction of a new and comprehensively designed Marine Recreation Centre building extending out over the tidal water edge and an associated jetty accessing a floating pontoon providing all tide water access. Such structures are expected on land zoned for informal recreation and yacht club / rowing facilities are necessarily located adjacent to waterways – rivers, lakes, harbours and the coast.

Although the proposed development has a very limited visual catchment, the identified viewing audience will be potentially large, including people using the adjacent public walkway that passes immediately to the rear of the MRC building and people accessing The Landing via Launch Road as well as, to a lesser extent and from a more distant location, ferry users and people on boats in the upper harbour channel.

The potential visual effects of the proposed development have been assessed with reference to the two representative viewpoint Visual Simulations, which are set out in Appendix 2, and in relation to the identified viewing audiences as set out above in section 6 Visual Catchment and Viewing Audiences.

Viewpoint 1 – Launch Road Roundabout

The landward approach to the harbour and the proposal is via Launch Road as represented by VS1 – Existing View. At present informal 90-degree carparking extends around the edge of the roadway including along the top of the seawall at the end of Launch Road adjacent to the harbour. The approach on Launch Road allows long-distance views over the Harbour navigation channel to the south east, towards the Isthmus of Auckland. In the view to the east across Catalina Bay the bush-lined coastal margin of Beach Haven forms the distant skyline.

As illustrated on VS1 – Proposed View, the removal of coastal edge vegetation will open up the view with the Scott Point headland coming into view across the bay. The proposed jetty will, by design, lie on axis with Launch Road, an open view of the navigation channel will be retained along with the expanse of the upper harbour landscape. To the right of the view the end of the MRC building with its open deck for the rigging of boats will be included in the view along with

[11] RMA 1991 interpretation

the walkway extending around the coastline. The end of the Launch Road gabion retaining wall sits in the foreground of the proposed building with its roof tapering toward the water.

Given that Launch Road provides access to the urban hub of The Landing and the locality has long been associated with recreational water access, structures such as the proposed jetty and MRC clubhouse building are not entirely unexpected in this locality. Given the careful siting, orientation and design of the jetty and adjacent MRC building the nature of the change introduced can be considered to be in line with the reasonable expectations of the community and land based viewing audiences. The arrival at the end of the Launch Road will become more urban consistent with the character of development to the immediate left of the view at The Landing.

Any adverse visual effects are assessed to be **Low to Very Low** whilst also associated with public amenity benefits in terms of access to the water edge and the continued enablement of public water based recreation.

Viewpoint 2 - Boat View to Launch Road from Catalina Bay

The water-based view from the Upper Harbour navigation channel is illustrated by VS2 – Existing View. The site's location on the coastal edge is distinguishable by the vegetated escarpment to the rear of the site and the adjacent Launch Road with its gabion retaining wall. Existing buildings at The Landing have a relatively low profile with the Sunderland Hangar and the existing Yacht Club buildings sitting atop the coastal sea wall. The covered pedestrian access to the ferry pontoon is visible to the edge of the photo.

As illustrated on the VS2 – Proposed View, the proposal will sit in front of and remain strongly backdropped by the vegetated escarpment of Harrier Point. By contrast with this lower profile development, consented but as of yet un-built development on The Landing comprising the Willis Bond development including the Cheshire (on the site of the existing Yacht Club buildings) and Architectus buildings as well as the taller 15 storey Jasmax designed tower (Winton Partners developers) in the sub-precinct behind, which have been included in the 'proposed view' visual simulation, create a more prominent built node of development at the water's edge. These buildings signal the planned commercial heart and node of development at The Landing.

The proposed MRC building and associated water-based structures will reinforce the urban waterfront node whilst tapering down in height from the taller development adjacent. The proposed coastal structures will be consistent with the evolving visual character and amenities along Catalina Bay.

The magnitude of change resulting from the proposal is considered to be in line with the expectations of water-based viewing audiences and by extension people living at a greater distance across the harbour. Given its low profile and vegetative skyline backdrop, the proposal will not substantially impact the character or quality of views from across the harbour channel.

Any adverse visual effects in respect of water-based viewing audiences are assessed to be **Low to Very Low.** The proposal will also be seen to be associated with public amenity benefits in terms of access to the water edge and the continued enablement of public water-based recreation. People viewing from the water are likely to have a favourable response to water access recreation particularly if they themselves are involved in such activities.

For the rest of the identified potentially affected viewing audiences, such as future residents of Cheshire / Architectus buildings (consented), visitors to The Landing, or users of the adjacent Te Ara Manawa walkway, the proposal will introduce a potential amenity with the jetty providing for recreational access to the water. The MRC building will appear as a public clubroom facility

for the local community of users. The building will interrupt some views to water and users of the walkway will pass along the long side of the building, this has, however, been designed to avoid a blank façade and to protect the primacy of the public walkway access. A new water edge recreational facility will be introduced in clear association with the node of waterfront development at The Landing.

8.0 Conclusion

The site's location forms part of a distinctive and discrete node of long-established marine industry activities on the upper reaches of the Waitemata Harbour at Hobsonville Point. Part of this coastline (including The Landing sub-precinct) has been historically reclaimed from the harbour involving significant modification to the natural character of the coastal environment. To an extent this historical development has facilitated the urban regeneration of Hobsonville Point and the PT ferry / bus interchange located here.

The proposed development is located on a low lying and visually contained coastline which is backdropped by a well vegetated escarpment. This enclosing landward backdrop ensures that the proposed building and water-based structures can be comfortably accommodated, well-integrated physically and visually with the surroundings.

The proposed development will constitute a relatively minor addition to the Catalina Bay coastline which will continue to evolve as a prominent built node in line with the provisions of The Landing sub-precinct. The proposed marine recreation facilities are required to replace established facilities displaced by this planned re-development and to continue to provide for water-based recreation for the community at Hobsonville Point.

The facilities will include a publicly accessible jetty that will enhance public access to the harbour waters and coastline and club facilities supporting rowing and small boat sailing. These facilities are well used currently by all age groups within the community including children and young adults.

Whilst furthering the extent of coastal modification the proposal is relatively small scaled in the context of the wider planned development and well designed to fit within its coastal context. Adverse effects are considered to be **Low to Very Low** whilst beneficial community recreational amenity and public coastal access effects will also accrue. As a harbour edge community, it is appropriate for Hobsonville Point to provide community facilities to support water based recreation and the proposal is considered to be highly appropriate in this respect and to thereby enhance the amenity of the location.

.

Abbreviations

AEE - Assessment of Environmental Effects

AC – Auckland Council

AUP OIP - Auckland Unitary Plan Operative in part

BML – Boffa Miskell Ltd

CMA – Coastal Marine Area

HLC – Homes. Land. Community

HNC – High Natural Character

LVEA - Landscape and Visual Effects Assessment

MSRC - Marine Sports Recreation Centre

ONF – Outstanding Natural Feature

ONL – Outstanding Natural Landscape

PTA - Peddle Thorp Architects

SGA - Strachan Group Architects

ST – State Highway

RC – Resource consent

RD - Restricted Discretionary activity

RL – Reduced level; this is based on a mean sea level above datum.

RMA – Resource Management Act 1991.

VP - Viewpoint

Glossary of Key Terms

Amenity - amenity values are those values which create the appeal of a particular place. They are the natural or physical qualities and characteristics of an area that contribute to peoples' appreciation of its pleasantness, aesthetic coherence and recreational attributes,

Building Envelope – for the purpose of assessing the effects of the proposal on the environment, and providing the community with information about the proposal, design parameters have been developed for the site that define a three-dimensional envelope within which the construction, operation and maintenance of the future development will occur.

Landscape Character - is the distinct and recognisable pattern of elements that occur consistently in a particular landscape. These elements reflect particular combinations of geology, landform, soils, vegetation, land use and human settlement.

Landscape Effect – change in the physical landscape, which may change its character or value.

Landscape Features – an element which is a small part of the landscape and is predominantly natural, it has features which distinguish it from the wider landscape.

Visual Amenity – relates to the perceptual component of amenity, that is the visual qualities perceived by people.

Visual Effect – change to a specific view which may change the visual amenity experienced by people.

Appendix 1: Landscape and Visual Effects Assessment Methodology

11 February 2019

Introduction

The Boffa Miskell Ltd landscape and visual effects assessment (LVA) process provides a framework for assessing and identifying the nature and level of likely effects that may result from a proposed development. Such effects can occur in relation to changes to physical elements, the existing character of the landscape and the experience of it. In addition, the landscape assessment method may include an iterative design development processes, which includes stakeholder involvement. The outcome of any assessment approach should seek to avoid, remedy or mitigate adverse effects (see **Figure 1**). A separate assessment is required to assess changes in natural character in coastal areas and other waterbodies.

This outline of the landscape and visual effects assessment methodology has been undertaken with reference to the **Quality Planning Landscape Guidance Note**[12] and its signposts to examples of best practice, which include the **UK guidelines for landscape and visual impact assessment**[13] and the **New Zealand Landscape Institute Guidelines for Landscape Assessment**[14].

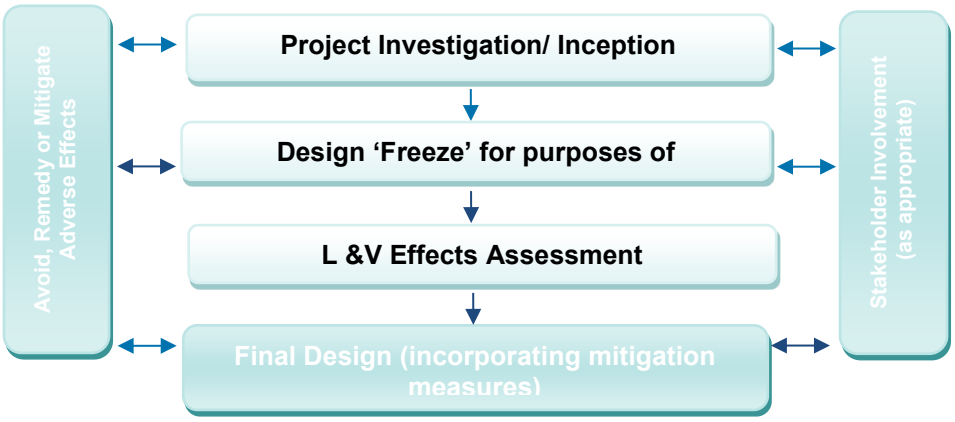


Figure 1: Design feedback loop

When undertaking a LVA, it is important that a **structured and consistent approach** is used to ensure that **findings are clear and objective**. Judgement should be based on skills and experience and be supported by explicit evidence and reasoned argument.

While landscape and visual effects assessments are closely related, they form separate procedures. The assessment of the potential effect on the landscape forms the first step in this process and is carried out as an effect on landscape elements, features and on landscape character. The assessment of visual effects considers how changes to the physical landscape affect the viewing audience. The types of effects can be summarised as follows:

[12] http://www.qualityplanning.org.nz/index.php/planning-tools/land/landscape
[13] Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3)
[14] Best Practice Note Landscape Assessment and Sustainable Management 10.1, NZILA

Landscape effects: *Change in the physical landscape, which may affect its characteristics or qualities.*

Visual effects: *Change to views which may affect the visual amenity experienced by people.*

The policy context, existing landscape resource and locations from which a development or change is visible, all inform the 'baseline' for landscape and visual effects assessments. To assess effects, the landscape must first be **described**, including an understanding of the **key landscape characteristics and qualities**. This process, known as landscape characterisation, is the basic tool for understanding landscape character and may involve subdividing the landscape into character areas or types. The condition of the landscape (i.e. the state of an individual area of landscape or landscape feature) should also be described together with, a judgement made on the value or importance of the potentially affected landscape.

Landscape Effects

Assessing landscape effects requires an understanding of the landscape resource and the magnitude of change which results from a proposed activity to determine the overall level of landscape effects.

Landscape Resource

Assessing the sensitivity of the landscape resource considers the key characteristics and qualities. This involves an understanding of both the ability of an area of landscape to absorb change and the value of the landscape.

Ability of an area to absorb change

This will vary upon the following factors:

- Physical elements such as topography / hydrology / soils / vegetation;
- Existing land use;
- The pattern and scale of the landscape;
- Visual enclosure / openness of views and distribution of the viewing audience;
- The zoning of the land and its associated anticipated level of development;
- The scope for mitigation, appropriate to the existing landscape.

The ability of an area of landscape to absorb change takes account of both the attributes of the receiving environment and the characteristics of the proposed development. It considers the ability of a specific type of change occurring without generating adverse effects and/or achievement of landscape planning policies and strategies.

The value of the Landscape

Landscape value derives from the importance that people and communities, including tangata whenua, attach to particular landscapes and landscape attributes. This may include the classification of Outstanding Natural Feature or Landscape (ONFL) (RMA s.6(b)) based on important biophysical, sensory/ aesthetic and associative landscape attributes, which have potential to be affected by a proposed development. A landscape can have value even if it is not recognised as being an ONFL.

Magnitude of Landscape Change

The magnitude of landscape change judges the amount of change that is likely to occur to areas of landscape, landscape features, or key landscape attributes. In undertaking this assessment, it is important that the size or scale of the change is considered within the geographical extent of the area influenced and the duration of change, including whether the

change is reversible. In some situations, the loss /change or enhancement to existing landscape elements such as vegetation or earthworks should also be quantified.

When assessing the level of landscape effects, it is important to be clear about what factors have been considered when making professional judgements. This can include consideration of any benefits which result from a proposed development. **Table 1** below helps to explain this process. The tabulating of effects is only intended to inform overall judgements.

Contributing Factors		Higher	Lower
Landscape (sensitivity)	**Ability to absorb change**	The landscape context has limited existing landscape detractors which make it highly vulnerable to the type of change resulting from the proposed development.	The landscape context has many detractors and can easily accommodate the proposed development without undue consequences to landscape character.
	The value of the landscape	The landscape includes important biophysical, sensory and shared and recognised attributes. The landscape requires protection as a matter of national importance (ONF/L).	The landscape lacks any important biophysical, sensory or shared and recognised attributes. The landscape is of low or local importance.
Magnitude of Change	**Size or scale**	Total loss or addition of key features or elements. Major changes in the key characteristics of the landscape, including significant aesthetic or perceptual elements.	The majority of key features or elements are retained. Key characteristics of the landscape remain intact with limited aesthetic or perceptual change apparent.
	Geographical extent	Wider landscape scale.	Site scale, immediate setting.
	Duration and reversibility	Permanent. Long term (over 10 years).	Reversible. Short Term (0-5 years).

Table 1: Determining the level of landscape effects

Visual Effects

To assess the visual effects of a proposed development on a landscape, a visual baseline must first be defined. The visual 'baseline' forms a technical exercise which identifies the area where the development may be visible, the potential viewing audience, and the key representative public viewpoints from which visual effects are assessed.

The viewing audience comprises the individuals or groups of people occupying or using the properties, roads, footpaths and public open spaces that lie within the visual envelope or 'zone of theoretical visibility (ZTV)' of the site and proposal. Where possible, computer modelling can assist to determine the theoretical extent of visibility together with field work to confirm this. Where appropriate, key representative viewpoints should be agreed with the relevant local authority.

The Sensitivity of the viewing audience

The sensitivity of the viewing audience is assessed in terms of assessing the likely response of the viewing audience to change and understanding the value attached to views.

Likely response of the viewing audience to change

Appraising the likely response of the viewing audience to change is determined by assessing the occupation or activity of people experiencing the view at particular locations and the extent to which their interest or activity may be focussed on views of the surrounding landscape. This relies on a landscape architect's judgement in respect of visual amenity and the reaction of people who may be affected by a proposal. This should also recognise that people more susceptible to change generally include: residents at home, people engaged in outdoor recreation whose attention or interest is likely to be focussed on the landscape and on particular views; visitors to heritage assets or other important visitor attractions; and communities where views contribute to the wider landscape setting.

Value attached to views

The value or importance attached to particular views may be determined with respect to its popularity or numbers of people affected or reference to planning instruments such as viewshafts or view corridors. Important viewpoints are also likely to appear in guide books or tourist maps and may include facilities provided for its enjoyment. There may also be references to this in literature or art, which also acknowledge a level of recognition and importance.

Magnitude of Visual Change

The assessment of visual effects also considers the potential magnitude of change which will result from views of a proposed development. This takes account of the size or scale of the effect, the geographical extent of views and the duration of visual change, which may distinguish between temporary (often associated with construction) and permanent effects where relevant. Preparation of any simulations of visual change to assist this process should be guided by best practice as identified by the NZILA[15].

Visual Simulations

As part of the asse0ssment process, visual simulations have been prepared in accordance with NZILA Best Practice Guide: Visual Simulations BPG 10.2[16]. This has entailed taking digital photographs from each of the identified viewpoints and recording their GPS locations. Preparation of visual simulations required the preparation of a 3D model of the proposed landform using 2 metre contour information supplied by OGNZL and 2016 AVD46 LiDAR information supplied by Auckland City Council. The GPS coordinates for each viewpoint were also added to the model and using the same focal length parameters as that of the camera, an image of the 3D wire frame of the proposed landform was then generated for each viewpoint. This was then registered over the actual photograph, using known reference points to bring the two together. The surface of the proposed landform was then rendered to approximate the likely appearance of the Site.

When determining the overall level of visual effect, the nature of the viewing audience is considered together with the magnitude of change resulting from the proposed development. **Table 2** has been prepared to help guide this process:

Contributing Factors		Higher	Lower	Examples
The Viewing Audience (sensitivity)	**Ability to absorb change**	Views from dwellings and recreation areas where attention is typically focussed on the landscape.	Views from places of employment and other places where the focus is typically incidental to its landscape context. Views from transport corridors.	Dwellings, places of work, transport corridors, public tracks
	Value attached to views	Viewpoint is recognised by the community such as an important view shaft, identification on tourist maps or in art and literature. High visitor numbers.	Viewpoint is not typically recognised or valued by the community. Infrequent visitor numbers.	Acknowledged viewshafts, Lookouts
Magnitude of Change	**Size or scale**	Loss or addition of key features in the view. High degree of contrast with existing landscape elements (i.e. in terms of form scale, mass, line, height, colour and texture). Full view of the proposed development.	Most key features of views retained. Low degree of contrast with existing landscape elements (i.e. in terms of form scale, mass, line, height, colour and texture. Glimpse / no view of the proposed development.	- Higher contrast/ Lower contrast. - Open views, Partial views, Glimpse views (or filtered); No views (or obscured)

[15] Best Practice Guide: Visual Simulations BPG 10.2, NZILA

[16] Best Practice Guide: Visual Simulations BPG 10.2, NZILA

Contributing Factors		Higher	Lower	Examples
	Geographical extent	Front on views. Near distance views; Change visible across a wide area.	Oblique views. Long distance views. Small portion of change visible.	- Front or Oblique views. - Near distant, Middle distant and Long distant views
	Duration and reversibility	Permanent. Long term (over 15 years).	Transient / temporary. Short Term (0-5 years).	- Permanent (fixed), Transitory (moving)

Table 2: Determining the level of visual effects

Nature of Effects

In combination with assessing the level of effects, the landscape and visual effects assessment also considers the nature of effects in terms of whether this will be positive (beneficial) or negative (adverse) in the context within which it occurs. Neutral effects can also occur where landscape or visual change is benign.

It should also be noted that a change in a landscape does not, of itself, necessarily constitute an adverse landscape or visual effect. Landscape is dynamic and is constantly changing over time in both subtle and more dramatic transformational ways; these changes are both natural and human induced. What is important in managing landscape change is that adverse effects are avoided or sufficiently mitigated to ameliorate the effects of the change in land use. The aim is to provide a high amenity environment through appropriate design outcomes.

This assessment of the nature effects can be further guided by **Table 3** set out below:

Nature of effect	Use and Definition
Adverse (negative):	The activity would be out of scale with the landscape or at odds with the local pattern and landform which results in a reduction in landscape and / or visual amenity values
Neutral (benign):	The activity would be consistent with (or blend in with) the scale, landform and pattern of the landscape maintaining existing landscape and / or visual amenity values
Beneficial (positive):	The activity would enhance the landscape and / or visual amenity through removal or restoration of existing degraded landscape activities and / or addition of positive elements or features

Table 3: Determining the Nature of Effects

Cumulative Effects

During the scoping of an assessment, where appropriate, agreement should be reached with the relevant local authority as to the nature of cumulative effects to be assessed. This can include effects of the same type of development (e.g. wind farms) or the combined effect of all past, present and approved future development[17] of varying types, taking account of both the permitted baseline and receiving environment. Cumulative effects can also be positive, negative or benign.

Cumulative Landscape Effects

Cumulative landscape effects can include additional or combined changes in components of the landscape and changes in the overall landscape character. The extent within which cumulative landscape effects are assessed can cover the entire landscape character area within which the proposal is located, or alternatively, the zone of visual influence from which the proposal can be observed.

Cumulative Visual Effects

Cumulative visual effects can occur in combination (seen together in the same view), in succession (where the observer needs to turn their head) or sequentially (with a time lapse between instances where proposals are visible when moving through a landscape). Further

[17] The life of the statutory planning document or unimplemented resource consents.

visualisations may be required to indicate the change in view compared with the appearance of the project on its own.

Determining the nature and level of cumulative landscape and visual effects should adopt the same approach as the project assessment in describing both the nature of the viewing audience and magnitude of change leading to a final judgement. Mitigation may require broader consideration which may extend beyond the geographical extent of the project being assessed.

Determining the Overall Level of Effects

The landscape and visual effects assessment concludes with an overall assessment of the likely level of landscape and visual effects. This step also takes account of the nature of effects and the effectiveness of any proposed mitigation. The process can be illustrated in Figure 2:

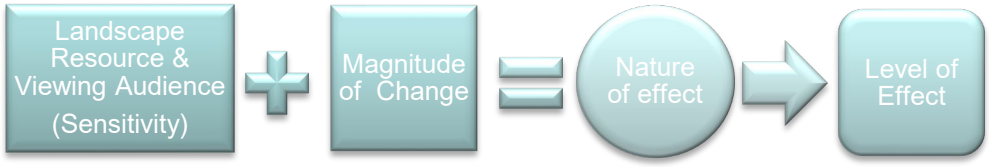


Figure 2: Assessment process

This step informs an overall judgement identifying what level of effects are likely to be generated as indicated in **Table 4** below. This table which can be used to guide the level of landscape and visual effects uses an adapted seven-point scale derived from NZILA's Best Practice Note.

Effect Rating	Use and Definition
Very High:	Total loss of key elements / features / characteristics, i.e. amounts to a complete change of landscape character in views.
High:	Major modification or loss of most key elements / features / characteristics, i.e. little of the pre-development landscape character remains and a major change in views. *Concise Oxford English Dictionary Definition* *High: adjective- Great in amount, value, size, or intensity.*
Moderate- High:	Modifications of several key elements / features / characteristics of the baseline, i.e. the pre-development landscape character remains evident but materially changed and prominent in views.
Moderate:	Partial loss of or modification to key elements / features / characteristics of the baseline, i.e. new elements may be prominent in views but not necessarily uncharacteristic within the receiving landscape. *Concise Oxford English Dictionary Definition* *Moderate: adjective- average in amount, intensity, quality or degree*
Moderate - Low:	Minor loss of or modification to one or more key elements / features / characteristics, i.e. new elements are not prominent within views or uncharacteristic within the receiving landscape.
Low:	Little material loss of or modification to key elements / features / characteristics. i.e. modification or change is not uncharacteristic or prominent within views and absorbed within the receiving landscape. *Concise Oxford English Dictionary Definition* *Low: adjective- **1.** Below average in amount, extent, or intensity.*
Very Low:	Negligible loss of or modification to key elements/ features/ characteristics of the baseline, i.e. approximating a 'no change' situation and a negligible change in views.

Table 4: Determining the overall level of landscape and visual effects

Determination of "minor"

Decision makers determining whether a resource consent application should be notified must also assess whether the effect on a person is less than minor[18] or an adverse effect on the environment is no more than minor[19]. Likewise, when assessing a non-complying activity, consent can only be granted if the s104D 'gateway test' is satisfied. This test requires the decision maker to be assured that the adverse effects of the activity on the environment will be 'minor' or not be contrary to the objectives and policies of the relevant planning documents.

These assessments will generally involve a broader consideration of the effects of the activity, beyond the landscape and visual effects. Through this broader consideration, guidance may be sought on whether the likely effects on the landscape or effects on a person are considered in relation to 'minor'. It must also be stressed that more than minor effects on individual elements or viewpoints does not necessarily equate to more than minor effects on the wider landscape. In relation to this assessment, moderate-low level effects would generally equate to 'minor'.

The third row highlights the word 'significant' which has particular reference to the NZCPS and Policy 13 and Policy 15 and where on the effects-spectrum 'a significant' effect would be placed.

Less than Minor		**Minor**	**More than Minor**			
Very Low	**Low**	**Moderate – Low**	**Moderate**	**Moderate-High**	**High**	**Very High**
					Significant[20]	

Table 5: Determining minor effects for notification determination and non-complying activities

[18] RMA, Section 95E

[19] RMA Section 95D

[20] To be used only about Policy 13(1)(b) and Policy 15(b) of the New Zealand Coastal Policy Statement (NZCPS), where the test is 'to avoid significant adverse effects'.

Appendix 2: Graphic Supplement

Marine Sports & Recreation Facility: Hobsonville Point

Graphic Supplement

August 2019

Marine Sports & Recreation Facility: Hobsonville Point

Contents

File Ref: BM19249_002_A3L_Viewpoint_Location_Context_Map.mxd

Boffa Miskell

www.boffamiskell.co.nz

0 100 200 m

1:5,000 @ A3

Data Sources: LINZ (Cadastre, Aerials), Auckland Council, Boffa Miskell

Projection: NZGD 2000 New Zealand Transverse Mercator

Legend

- Viewpoint Locations
- Proposed Development Footprint
- AUP High Natural Character of Greenhithe

BM19249 HOBSONVILLE POINT RECREATION CENTRE

Viewpoint Location Context Map

Date: 25 July 2019 | Revision: 0

Plan prepared by Boffa Miskell Limited

Project Manager: Rachel.deLambert@boffamiskell.co.nz | *Drawn:* SGa | *Checked:* KOt

VISUAL SIMULATIONS - METHODOLOGY

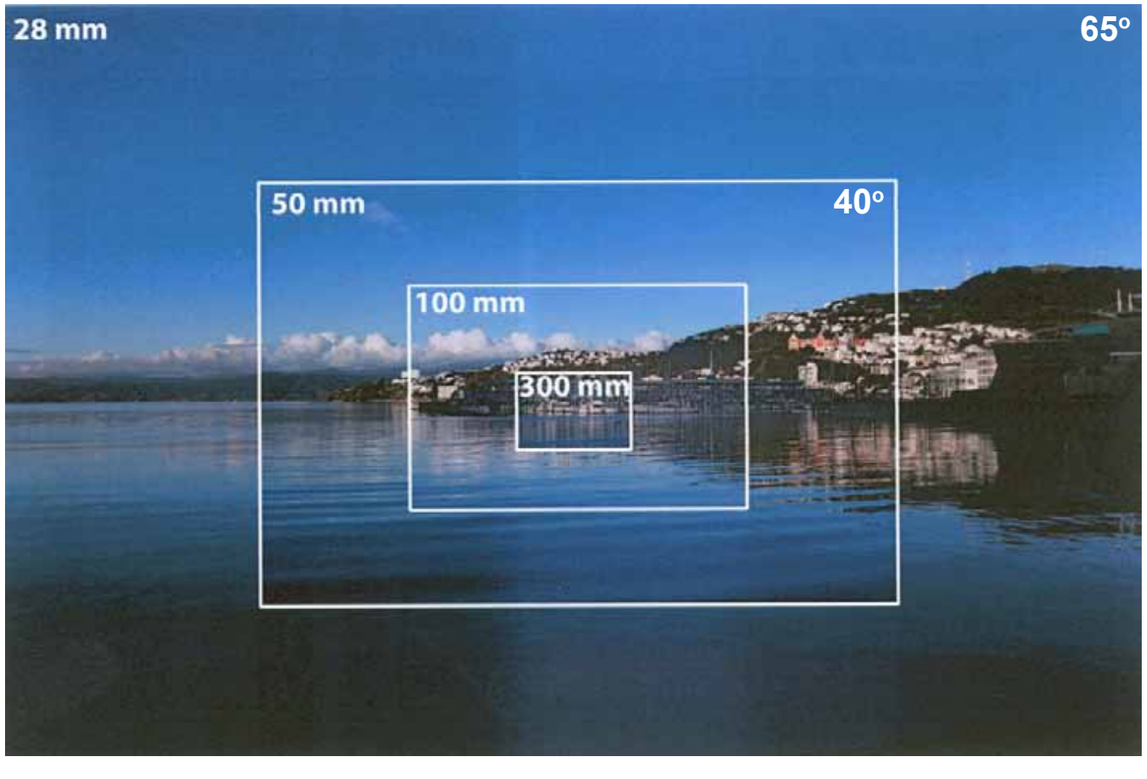
SITE VISIT & PHOTOGRAPHY

Site photographs were taken with a Canon digital SLR camera fitted with a 50mm focal length lens, mounted on a tripod and panoramic head. A series of photos were taken at predetermined viewpoints, situated on public land. The locations of each viewpoint were fixed by either hand held GPS or GPS units built in to the cameras.

NZILA GUIDELINES & PANORAMA PREPARATION

The visualisations have been produced in accordance with the NZILA Best Practice Guidelines for Visual Simulations (BPG 10.2) and also adhere to Boffa Miskell's internal Visualisation Guidelines.

As can be seen below (derived from Figure 9 of the NZILA BPG), a photo taken with a 28mm lens will provide a horizontal field of view of 65°. Using a 50mm lens will provide a "cropped" (40°) version of the same view. The same effect can also be achieved by taking multiple 50mm photos in portrait mode, and using digital stitching software to merge and crop to 90°, 65° or 40°.



COMPOSITING

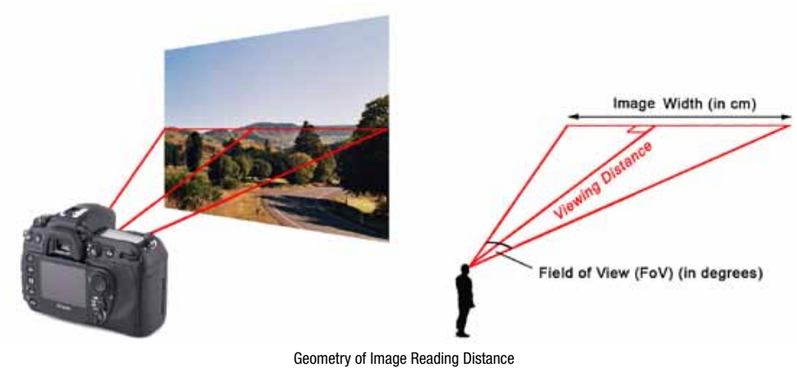
Virtual camera views were then created in 3D modelling software, and a combination of 3D contour data and 3D engineering drawings turned on in each of these views. These were then matched to the corresponding photographic panorama, using identifiable features in the landscape and the characteristics of the camera to match the two together. The visualisations were then assembled using graphic design software.

VIEWING (IMAGE READING DISTANCE)

Views which have a field of view of 40° should be viewed from a distance of 55 cm when printed at A3.
Views which have a field of view of 65° should be viewed from a distance of 31.5cm when printed at A3.
Views which have a field of view of 90° should be viewed from a distance of 20 cm when printed at A3.

This will ensure that each simulation is viewed as if standing on-site at the actual camera location, and is in accordance with Section 7.11 of the NZILA BPG (reproduced below). Users are encouraged to print these pages on A3 transparency, go to the viewpoint and hold at the specified reading distance, in order to verify the methodology.

LENS	HORIZ FoV [1]	PAPER SIZE	ACTUAL IMAGE SIZE [2]	READING DISTANCE [3]
28mm	65°	A4	277mm W x 185mm H	215mm
		A3	400mm W x 267mm H	315mm
		A2	574mm W x 383mm H	450mm
50mm	40°	A4	277mm W x 185mm H	380mm
		A3	400mm W x 267mm H	550mm
		A2	574mm W x 383mm H	790mm



Geometry of Image Reading Distance

Boffa Miskell

www.boffamiskell.co.nz

BM19249 HOBSONVILLE POINT RECREATION CENTRE

Visual Simulations - Methodology

| Date: 20 August 2019 | Revision: 0 |

Prepared for HLC by Boffa Miskell Ltd

Project Manager: **rachel.delambert@boffamiskell.co.nz** | Drawn: RGo | Checked: KOt

Existing View

Proposed View

Boffa Miskell

www.boffamiskell.co.nz

Viewpoint Details

NZTM Easting	: 1749250.1 mE	Horizontal Field of View	: 90°
NZTM Northing	: 5927132.0 mN	Vertical Field of View	: 30°
Elevation	: 6.10m Approx	Projection	: Rectilinear
Date of Photography	: 11:55am, 14 June 2019	Image Reading Distance @ A3 is 20 cm	

Data sources: BML - Photography; ACC - 2016 LiDAR, 2015/16 Aerials; Survey - B N Walker Surveyors; Models - SGA MSRC, BuildMedia (Winton), Cheshire Architects, Architectus

BM19249 HOBSONVILLE POINT RECREATION CENTRE

Viewpoint 1 - Launch Road Roundabout

| Date: 27 August 2019 | Revision: 0 |

Plan prepared for HLC by Boffa Miskell Limited

Project Manager: **rachel.delambert@boffamiskell.co.nz** | *Drawn:* RGo | *Checked:* KOt

VS 1

Existing View

Proposed View

Boffa Miskell

www.boffamiskell.co.nz

Viewpoint Details

NZTM Easting	: 1749439.3 mE	Horizontal Field of View	: 90°
NZTM Northing	: 5927049.9 mN	Vertical Field of View	: 30°
Elevation	: 2.39m Approx	Projection	: Rectilinear
Date of Photography	: 11:02am, 10 April 2019	Image Reading Distance @ A3 is 20 cm	

Data sources: BML - Photography; ACC - 2016 LiDAR, 2015/16 Aerials; Survey - B N Walker Surveyors; Models - SGA MSRC, BuildMedia (Winton), Cheshire Architects, Architectus, LINZ

BM19249 HOBSONVILLE POINT RECREATION CENTRE

Viewpoint 2 - Boat View to Launch Road from Catalina Bay

| Date: 27 August 2019 | Revision: 0 |

Plan prepared for HLC by Boffa Miskell Limited

Project Manager: **rachel.delambert@boffamiskell.co.nz** | *Drawn:* RGo | *Checked:* KOt

VS 2

About Boffa Miskell

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Auckland, Hamilton, Tauranga, Wellington, Christchurch, Dunedin and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.

---

www.boffamiskell.co.nz

Auckland	**Hamilton**	**Tauranga**	**Wellington**	**Christchurch**	**Queenstown**	**Dunedin**
+64 9 358 2526	+64 7 960 0006	+65 7 571 5511	+64 4 385 9315	+64 3 366 8891	+64 3 441 1670	+64 3 470 0460

APPENDIX 15
MARINE ECOLOGICAL REPORT

REPORT

Tonkin+Taylor

Catalina Bay Marine Recreation Centre

Marine Ecological Effects Assessment

Prepared for
HLC (2017) Ltd
Prepared by
Tonkin & Taylor Ltd
Date
November 2019
Job Number
1009186.v2

Exceptional thinking together
www.tonkintaylor.co.nz

Document Control

Title: Catalina Bay Marine Recreation Centre					
Date	**Version**	**Description**	**Prepared by:**	**Reviewed by:**	**Authorised by:**
September 2019	1	Marine ecological assessment to support resource consent application	L Underwood S Jackson	D C Miller	S Richardson
November 2019	2	Final marine ecological assessment to support resource consent application	L Underwood S Jackson	D C Miller	S Richardson

Distribution:

HLC (2017) Ltd	1 electronic copy
Tonkin & Taylor Ltd (FILE)	1 electronic copy

Table of contents

Executive summary

HLC (2017) Ltd (HLC) proposes the construction of a new marine sports recreation centre at the end of Launch Road, Hobsonville Point. The proposed new facility will comprise an over-water deck structure to support new club buildings, a public jetty and aluminium gangway connecting to new concrete floating pontoons. The new facilities will provide all tide access for rowing and sailing vessels.

Project works will include the temporary disturbance of the intertidal and subtidal seabed in the footprint of the marine recreation facility and associated infrastructure through piling and construction activities. Once constructed, the new centre, jetty and pontoon will occupy an area of approximately 994 m^2 of the Coastal Marine Area (CMA), creating shading beneath structures.

This report presents an assessment of ecological effects for the project undertaken in general accordance with the Ecological Impact Assessment (EcIA) guidelines (vs.2) produced by the Environmental Institute of Australia and New Zealand (EIANZ, 2018). The work has included a desktop review of existing relevant ecological data, a site visit to provide a qualitative description of the habitat and coastal birds on site and to collect benthic infauna and sediment contaminant information. The EcIA guidelines ascribe an overall level of effect (from 'Negligible Effect' to 'Very High' ecological effect) that is determined using a matrix based on ecological values and the magnitude of effect on these values.

The coastal marine habitat of the project footprint is largely intertidal, with the exception of a deeper sub-tidal channel (deepened by dredging) adjacent to an existing seawall. The intertidal habitat is characterised by fringing mangroves, transitioning to firm muddy fine sand flats and soft gloopy mud. Sediment contaminant concentrations both inside and outside the project footprint were found to be relatively clean and below Default Guideline Values, based on ANZECC (2018). Benthic infauna communities are slightly to moderately disturbed based on AMBI analysis. 'At Risk' and 'Threatened' bird species were observed in the project footprint during the site visit.

Our assessment of ecological effects is summarised as follows:

- **Effects on coastal birds** – The ecological value of the project footprint for coastal birds is Very High based on 'Threatened' species being present, however the magnitude of effect is negligible due to the limited habitat available and the temporary duration of construction. Overall, the ecological effect of the project is Low.
- **Effects on benthic fauna** – The ecological value of the project footprint for benthic fauna is Low, based on no 'Threatened' or 'At Risk' species being present, the habitat being common locally within the Waitematā Harbour and a slightly to moderately disturbed nature of the environment. In the short term, the magnitude of effect on benthic fauna is High, and in the long term Negligible. This equates to an overall Low and Very Low level of effect in the short and long term respectively.
- **Effects on marine mammals** – The ecological value of the project footprint is Low for marine mammals on the basis that no 'Nationally Threatened' or 'At Risk' species are likely to be present in or frequent the project footprint. The overall ecological effect is Very Low, based on a negligible magnitude of effect and the proposed implementation of appropriate management protocols.
- **Effects on fish** – The project footprint has a Low ecological value for fish species, and a negligible magnitude of effect based on the small project footprint and the temporary nature of the works. Overall, the level of ecological effects on fish is Very Low.
- **Effects on seafood resource species** – The ecological value of seafood resource at the site is Low, based on limited seafood resource species being present in the project area, and that the

area is largely inaccessible. Seafood resource species are expected to recolonise pile structures post construction, therefore the magnitude of effect on seafood resources is negligible. Overall, there is a Very Low level of effect on seafood resources.

- **Effects on biosecurity** - The ecological value of the site is Low from a biosecurity perspective, based on the presence of known invasive species in the project area and the presence of 60 known invasive in the wider Waitematā. The potential magnitude of effect from the project on biosecurity is Very High based on the potential for transferral of invasive species both from and to the project area. The implementation of appropriate biosecurity protocols will minimise risk from spreading invasive species and reduce the magnitude of effect to Negligible, translating to an overall Very Low level of ecological effect on biosecurity.

We consider the marine ecological effects associated with the proposed project to be Low overall. Short-term, construction related effects on water quality will be managed by standard construction management techniques, such as sediment controls to be outlined in the proposed Construction Management Plan.

As outlined in the acoustic assessment, standard management protocols are proposed to minimise the potential effects of noise generating activities from piling activities on marine fauna. Implementation of biosecurity management protocols are also recommended to minimise the risk of spreading biosecurity risk species as a result of construction.

1 Introduction

1.1 Background

HLC (2017) Ltd (HLC) proposes the construction of a new marine sports recreation centre at the end of Launch Road, Hobsonville Point. The developed design for the proposed centre shows an over-water deck structure to support new club buildings (Strachan Group Architects, 2019). A public jetty, aluminium gangway and concrete pontoons are also proposed within this application (hereafter referred to as "the project"). The new facility will provide all tide access for rowing and sailing vessels.

This assessment of ecological effects has been prepared by Tonkin & Taylor Ltd (T+T) to support the resource consent application to authorise the proposal[1].

1.2 Proposed works

A number of layout options were considered, looking at the length of the jetty and quantity of dredging. The preferred overall layout of the water access and dredging is provided in drawing 1006452-RC02 in Appendix A of the Resource Consent Engineering Design Report (T+T, 2019) and is shown in Figure 1.1 below.

The proposed works are separated into the following key elements:

- **Marine sports recreation centre**. The proposed facility covers an area of ~990 m^2 and will be constructed on 6 m x 6 m spaced concrete piles (approximately 11 piles in total). The building has been placed as far as practical onto the existing Boundary Road to reduce the extent of piling and building bulk that sits over the Coastal Marine Area (CMA).
- **Public timber jetty**. A timber jetty 4 m wide by 42 m in length is proposed to allow access for rowing boats, dinghies and yachts to deeper water. The jetty will connect into the deck of the proposed marine recreation building, resulting in an integrated facility. Approximately 22 300 mm diameter timber piles are required to support the jetty.
- **Aluminium gangway**. At the seaward end of the jetty a gangway 3 m wide and 28 m long will be provided to access the pontoons.
- **Concrete floating pontoons**. The pontoon system will be a proprietary pontoon design consisting of concrete flotation units supported by guide piles and will be approximately 250 m^2. The pontoon will have a freeboard of between 100 mm and 150 mm and will be suitable for boarding rowing skiffs. The guide piles will most likely be timber piles sleeved with HDPE. It is expected that there will be a total of five (5) guide piles, however this is to be confirmed by the pontoon supplier who will undertake the design and build of the system.

Dredging will be required to allow for access of small keeled yachts and other vessels and ensure the pontoon does not ground at lowest astronomical tide (LAT)[2].

[1] This work has been undertaken in accordance with our signed Letter of Engagement dated 20 December 2018.
[2] Dredging activities are consented under existing permits 37469 and 37470. Ecological effects associated with dredging are therefore not included in this assessment of ecological effects.

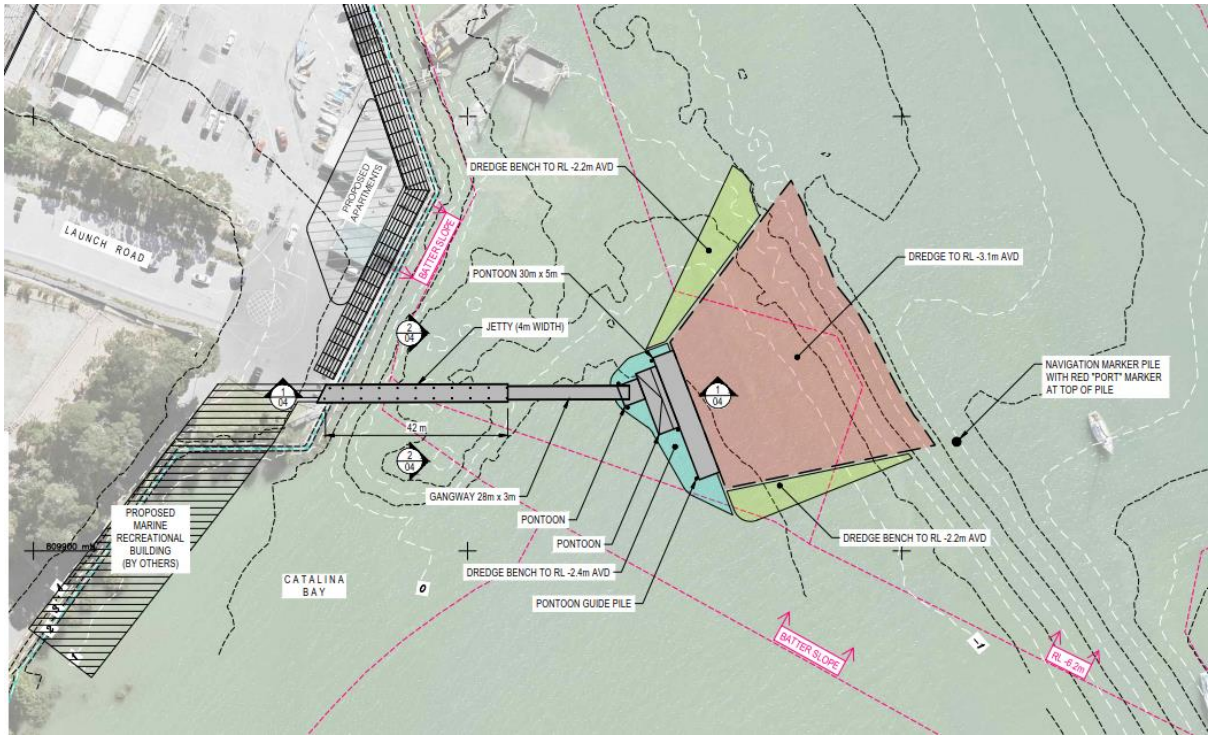


Figure 1.1: Proposed layout of marine recreation facility, jetty structure, gangway and floating pontoons [extract from drawing 1006452-RC02 in Appendix A of the Resource Consent Engineering Design Report]

1.3 Proposed construction methodology

The construction methodology will depend on the final detailed design and methodology proposed by the awarded contractor. An indicative methodology is provided in Section 4 of the Resource Consent Engineering Design Report (T+T, 2019), and is summarised here.

Construction of the water access jetty and the deck platform that the building will be constructed on will involve the installation of concrete and timber piles into the foreshore/seabed area. These piles are likely to need to be installed into pre-drilled holes. If soft marine sediments exist on the surface the contractor will require a steel casing to be installed around the pile location, with the casing to be removed following installation of the pile. Piling for both structures is likely to be carried out with land-based piling equipment operation from temporary staging, although some of the piles may also be installed by piling crane operation from a barge.

All excavated pile spoil will be removed from the CMA and will be disposed of off-site at an approved disposal site.

A typical method for the construction of the marine recreational facility building platform is as follows:

- Land-based drilling rig to be mobilised and installation of temporary works consisting of H-beam piles and beams;
- Install bored reinforced concrete piles, permanent or temporary casing to be adopted to prevent collapse of the bored holes during drilling. An auger will be used to drill pile holes into East Coast Bays Formation (ECBF) rock with the minimum embedment depth of three (3) times the pile diameter;
- Precast concrete beams to be transported to site by road and lifted into position;
- Temporary works to be removed from site;

- Deck and building construction to continue; and
- Demobilise from site and remove all debris.

A typical method for the construction of the water access jetty and pontoon is as follows:

- Establish a site working area including temporary fencing around landside working area, buoys to demarcate the construction area and signage (where necessary);
- Establish a laydown area on the landside;
- Remove concrete block and wall from jetty entrance area and dispose offsite;
- Land based drilling rig operation from temporary staging, or a drilling rig on a barge may be used to pre drill at the pile locations with pile holes being drilled to slightly less than the pile diameter;
- Sharpen end of timber pile and drive using an impact hammer;
- Cut pile to level as required, high-density polyethylene (HDPE) sleeve to be sleeved over the pontoon piles;
- Construct the deck of the structure, working from the land going seawards;
- Pontoons and gangway to be constructed off-site by suppliers;
- Pontoon to be floated to site and positioned and secured on the pontoon guide piles;
- Gangway to be barged in and craned into position and fixed to the jetty; and
- Demobilise from site and remove all debris.

Due to the sensitivity of the environment, a Construction Management Plan (CMP) is proposed to be lodged with Auckland Council prior to commencement of works.

Any refuelling will be undertaken on land and outside of the CMA. Public access along Boundary Road will be restricted for the full duration of the construction activity.

Timber will be delivered from a sawmill to the site throughout the construction period, this timber is expected to be temporarily stockpiled in a designated area outside of the CMA after which it will be used for the construction of the timber jetty.

2 Methods

Our approach to the assessment of ecological effects has comprised:

- Collation and a desktop review of existing ecological data relevant to the site;
- Visual inspection of epifauna and habitat types within the project footprint;
- Collection of benthic infauna cores from locations within the Project footprint and surrounds; and
- An assessment of effects on coastal ecology based on the known or likely ecological values onsite and the expected magnitude of effects on those values. We have used the Ecological Impact Assessment (EcIA) guidelines (vs.2) produced by the Environmental Institute of Australia and New Zealand (EIANZ, 2018) to frame our assessment of ecological effects.

2.1 Ecological characteristics and values

A desktop assessment was undertaken to compile information and data relating to the ecology of the project footprint and the surrounding area. This included the following sources of information:

- Auckland Council (1999) *Intertidal and subtidal biota and habitats of the central Waitematā Harbour*. Auckland Regional Council Technical Report 127;
- Auckland Council. *Geomaps viewer – Significant Ecological Areas layer.* Accessed 13th February 2019;
- Tonkin + Taylor Ltd (2015) *Greenhithe Bridge Watermain Duplication and Causeway Technical Report D: Ecological Assessment.*
- White, S.E (Bioresearches) (2009). *Hobsonville Landing Development Marine Ecological Assessment;*
- Styles Group (2019) Acoustic Assessment – Catalina Bay Sports Recreation Centre.
- Ministry for Primary Industries (2017) Marine High-Risk Site Surveillance Programme. MPI Technical Paper Number 2017/45;

2.1.1 Site assessment

A walkover of the site on 7 February 2019 was completed to assess the different habitat types and estuarine vegetation present, and to classify habitats based on the Auckland Regional Council (ARC) criteria (ARC, 1999).

A qualitative coastal bird survey was undertaken at the project footprint and within the surrounding area during the site walkover. Any coastal birds observed during the day on site were identified and presence recorded. Additionally, a 30 minute bird survey and count was conducted during high tide and low tide. Any roosting and/or foraging sites within the project footprint were recorded.

Surface sediment samples for contaminant testing were collected by hand with two surface samples collected within the works footprint and two from outside the proposed footprint. Sample locations are indicated in Appendix A Figure 1.

2.1.2 Benthic ecology

Epifauna

Two transects were surveyed from the edge of Boundary Road to 40 m seaward perpendicular to the coastal edge (Appendix A: Figure 1). Three random samples of intertidal flora and fauna were recorded at 10 m stations along transects. Random sampling was conducted using a 0.25 m² quadrat and photographing and recording all live species present on the sediment surface within the quadrat

(Appendix E). Transect length was based on the proposed works area, with sampling stations at 40 m located outside of the works area.

Infauna

A total of four benthic infauna samples were collected from the project footprint and seaward to characterise existing benthic infauna communities both within and outside the project footprint. Sample locations are shown in Appendix A, Figure 1.

Samples were collected using a 0.013 m^2 corer pushed into the surface sediments to a depth of approximately 15 cm. The recovered core material was then sieved using a 0.5 mm nylon mesh bag and the remaining contents preserved in approximately 80 % ethanol for invertebrate identification. Samples were sent to Biolive Invertebrate Identification Services (Nelson) where they were processed and all organisms present identified and counted. The Shannon Weiner Diversity and Shannon Weiner Evenness index values were calculated and reported for each sample.

2.1.3 Analysis of benthic infauna data

The degree of "disturbance" of benthic communities and ecological health was determined using the AZTI Marine Biotic Index (AMBI). AZTI is the Technical Institute in Spain that developed the index (Borja *et al*., 2000). In summary, the AMBI system has a database of approximately 8,000 marine benthic invertebrate taxa, each of which are rated according to their ability to live with man-made or natural disturbance (which can be physical, such as dredging, or chemical, such as pollution).

This database is able to be adapted for use in New Zealand. Where a New Zealand species is not found on the AMBI list, the species is reassigned where appropriate on the basis of its genus[3]. Re-assigning of the species is also undertaken using a recent study by Robertson *et al.* (2015) to assign the species to an ecological group based on its tolerance to increasing mud content. Ultimately, the AMBI offers a 'disturbance or pollution classification' of a site, representing the benthic community health (Muxika *et al*., 2005).

The AMBI software package was sourced from www.ambi.azti.es to undertake the analysis. The taxonomic list from the present study was formatted according to the requirements of the software package and processed through the AMBI software to give an assessment of the degree of disturbance at each site. Results from the AMBI analysis are interpreted using Table 2.1 below.

[3] Using comparison to other AMBI species of the same genus and a literature check to confirm species sensitivity to disturbance.

Table 2.1: AMBI Biotic coefficient interpretation (from Muxika *et al*. 2005)

AMBI Biotic coefficient	Dominating ecological group*	Benthic community health	Site disturbance classification	Ecological health status
0.0 to 0.2	I	Normal	Undisturbed	High
0.2 to 1.2		Impoverished		
1.2 to 3.3	III	Unbalanced	Slightly disturbed	Good
3.3 to 4.3	IV - V	Transitional to pollution	Moderately disturbed	Moderate
4.3 to 5.0		Polluted		Poor
5.0 to 5.5	V	Transitional to heavy pollution	Heavily disturbed	
5.5 to 6.0		Heavy polluted		Bad
6.0 to 7.0	Azoic (No trace of life)	Azoic	Extremely disturbed	

*The dominating ecological group refers to the grouping of species based on their sensitivity to an increasing stress gradient: Group I species very sensitive, Group II species indifferent, Group III species intolerant, Group IV second-order opportunistic species, and Group V first-order opportunistic species.

The Shannon-Weiner diversity and evenness indices are commonly used to describe community complexity and equitability of distribution, where the diversity value (H') ranges between 0 (indicating low community complexity) and 4 (indicating high complexity); whilst the evenness value (E) ranges from 0 (highly irregular distribution) to 1 (all counts are equal).

2.1.4 Sediment quality

Sediment samples were submitted for analysis of high molecular weight polycyclic aromatic hydrocarbons (HMW PAHs), zinc, copper and lead (total and <63 µm fractions). Samples were sent to RJ Hill Laboratories for analysis.

Results were compared against Australian and New Zealand Environment and Conservation Council Sediment Quality Guidelines (ANZECC SQG) (2018). The sediment Default Guideline Values (DGVs) indicate the concentration below which there is a low risk of unacceptable effects occurring. The Guideline Values – High (GV-High) provide an indication of concentrations at which you might already expect to observe toxicity-related adverse effects. As such, the GV-High value should only be used as an indicator of potential high-level toxicity problems, not as a guideline value to ensure protection of ecosystems (ANZECC, 2018).

Table 2.2: Sediment quality guideline concentrations according to ANZECC Default Guideline Value and Guideline Value – High (ANZECC, 2018)

Contaminant	Unit	DGV	GV-High
Copper	mg/kg dry weight	65	270
Lead	mg/kg dry weight	50	220
Zinc	mg/kg dry weight	200	410
Total PAH	µg/kg dry weight, 1% TOC	10,000	50,000

2.2 Assessment of effects

Our assessment of ecological effects follows the framework outlined in the Environmental Institute of Australia and New Zealand (EIANZ) guidelines (EIANZ, 2018). Whilst these guidelines are designed for freshwater and terrestrial systems, we have broadly followed a modified version of the guidelines for marine systems developed by Boffa Miskell[4]. The EIANZ guidelines state that the purpose of the document is to outline the framework to provide guidance on good practice, however practitioners may deviate from the guidelines where it is considered ecologically relevant and justifiable to do so.

The EIANZ approach follows these steps:

1 Ecological species values are assigned a level on a scale of Negligible, Low, Moderate, High or Very High based on assessing the values of species identified against criteria set out in the EIANZ guidelines (Appendix C Table 1Appendix C Table 1);

Ecological habitat values are assigned a level on a scale of Very Low, Low, Moderate, High or Very High based on assessing the value of marine habitats identified against criteria set out in Appendix C Table 2.

2 The magnitude of the effect that the project is expected to have on ecological values is evaluated as being either Negligible, Low, Moderate, High or Very High (Appendix C Table 3);

3 The overall level of effect is determined using a matrix that is based on the ecological values and the magnitude of effects on these values. Level of effect categories include Positive, Negligible, Low, Moderate, High and Very High (Appendix C Table 4);

4 The overall level of effect categories are used to determine if effects management is required. Effects assessed as being 'Moderate' or greater in Appendix C Table 4 warrant efforts to avoid, remedy and/or mitigate them.

The basis of the EIANZ assessment comprises a series of tables that are included in Appendix C for reference.

[4] The characteristics of estuarine sites with low, medium and high ecological values have been developed by Dr De Luca, Boffa Miskell Ltd, to guide valuing estuarine environments, and to provide a transparent approach that can be replicated. The characteristics have been applied in Environment Court and Board of Inquiry hearings, including a number of NZTA projects (Transmission Gully, MacKays to Peka Peka, Puhoi to Warkworth) and the Queens Wharf Mooring Dolphin from which Appendix C Table 2 is referenced.

3 Description of existing environment

3.1 Project location

The project site is located in the north western section of the Upper Waitematā Harbour, on the northern fringe of Catalina Bay, Hobsonville Point (refer to Appendix A: Figure 1 and Appendix B).

The coastal marine habitat of the project footprint is largely intertidal, with the exception of a deeper sub-tidal channel (deepened by dredging) adjacent to the existing seawall. The intertidal habitat is characterised by fringing mangroves, transitioning to firm muddy fine sand flats and soft gloopy mud, which is generally associated with low intrinsic values.

3.2 Habitat description

The intertidal and subtidal locations surveyed within and surrounding the works area (Appendix A: Figure 1) represent four habitat categories based on the definitions in Auckland Regional Council Technical Publication 'Intertidal and Subtidal biota and habitats of the central Waitematā Harbour' (ARC, 1999). The habitats are listed below, with site photographs included in Appendix B.

- **Mangrove** (Appendix B: Photographs 1, 2, 4) *Avicennia marina* representative of the upper intertidal zone of the Waitematā Harbour. A strip of mangroves is present between the open intertidal flats and the coastal edge, adjacent to the existing sea wall. Mangroves were generally small (< 2 m in height) with some larger individuals (2-3 m in height) scattered in the proposed works area.
- **Firm muddy fine sand flats** (Appendix B: Photographs 2, 3) is the predominant habitat in the proposed works area typical of mid to low tidal flats in the Waitematā, that have not been buried with softer muds. Firm muddy fine sand flats transition seaward to soft gloopy mud.
- **Soft gloopy mud** is present seaward of the firm muddy sand flats outside of the proposed works area accumulated overtime in depositional areas due to land activities, covering sand flats.
- **Subtidal channel** (Appendix B: Photograph 5) is adjacent to the existing basalt seawall and is not exposed during low tide due to dredging of the channel.

3.3 Coastal birds

The Auckland Unitary Plan – Operative in Part (AUP-O) identifies several Significant Ecological Areas – Marine (SEA-M) within the upper harbour and shown in Appendix A: Figure 2. The project footprint is not located in a SEA-M, however Table 3.1 identifies the closest SEA-Ms and the distance from the project footprint.

Table 3.1: SEA-M around Hobsonville Peninsula

SEA ID	Description
56a_SEA-M2	Intertidal -Contains wide intertidal mudflats and mangrove shrublands. Wading birds, including threatened species feed in the intertidal area to the east of the peninsula. SEA-M located ~600m to south of the project footprint.
56b_SEA-M1	Wading bird roost - At the mouth of Nimrod Inlet and Bomb Bay is a shellbank that is one of the two major roosts on the Waitematā Harbour for wading birds, including threatened species. SEA-M located ~800m to the south of the project footprint at Bomb Bay.

During high tide and low tide coastal bird surveys, five different native species were identified (Table 3.2). The Caspian tern is a 'Threatened – national vulnerable' species, red-billed gulls are classified as 'At Risk - declining', while the other species observed are 'Not threatened' (Robertson *et al,* 2017).

At low tide, while not observed directly in the project footprint, several wading species were seen > 100 m from the site, foraging on exposed intertidal mud flats that extend for some distance seaward from the project footprint. These species are likely to include South Island pied oystercatchers (*Haematopus finschi*) (At risk - declining), variable oystercatchers (*Haematopus unicolor*) (At risk - recovering), and the northern New Zealand dotterel (*Charadrius obscurus*) (At risk - recovering), as well as others.

Table 3.2: Coastal bird species observed in the project footprint during high and low tide

Common Name	**Species name**	**Threat status**
High tide		
Caspian tern	*Hydroprogne caspia*	Threatened – nationally vulnerable
Red-billed gull	*Larus novaeholandiae*	At Risk – declining
Black-backed gull	*Larus dominicanus*	Not threatened
Low tide		
Common Name	**Species name**	**Threat status**
White-faced heron	*Egretta novaehollandiae*	Not threatened
Pied stilts	*Himantopus himantopus*	Not threatened
Red-billed gull	*Larus novaeholandiae*	At Risk – declining

Mangrove habitat in the immediate project footprint is limited to small, sparse mangroves adjacent to the existing seawall, however approximately 100 m to the south west, the area of mangrove habitat is substantial, with public access largely restricted. This vegetation could provide habitat for a number of bird species, including the banded rail (*Gallirallus philippensis assimilis*) (At risk – declining). Based on pers comms (Sam Heggie-Gracie, T+T), banded rail have been observed adjacent to mangrove habitat at Hobsonville Point, therefore it is considered that banded rail could intermittently utilise the project footprint for foraging at low tide.

During the site assessment, no high tide roosting sites were identified and there was no evidence of nesting sites. At high tide, water reaches the base of the existing seawall, meaning that any roosting or nesting would occur above the seawall on a mown grass berm adjacent to Boundary Road. This habitat is not considered suitable nesting for coastal birds (due to human activity, noise and lack of cover).

3.4 Sediment quality

The measured concentrations of each contaminant are presented in Table 3.3. Concentrations of copper, lead, zinc and HMW PAHs are compared against ANZECC SQG (ANZECC, 2018).

All measurements of copper, lead and zinc were within the DGV limits for both the total and <63 µm fraction of the samples collected at sites C1-4. HMW PAHs exceeded the DGV at site C2; this was the only site that had an exceedance. The identified levels of copper, lead and zinc indicate that there is a low risk of unacceptable effects on marine fauna occurring.

Copper, lead and zinc naturally occur in the soil and sediment and their presence may reflect the natural mineralogy of the local sediment. Fuel and marine industries, including boats and mooring areas, and urban areas also contribute to metal presence in sediment.

Table 3.3: Sediment contaminant concentrations (mg/kg dry weight) in total and <63 µm fraction of sediment at each site (samples C1-4). Sites C1 and C2 are located within the project footprint.

Site	C1		C2		C3		C4		ANZECC 2018	
Contaminant (mg/kg dry weight)	Total	<63 µm	Total	<63 µm	Total	<63 µm	Total	<63 µm	DGV	GV-High
Copper	7.5	14.1	8.6	12	9.5	10.8	8.5	11.3	65	270
Lead	12.4	22	18.8	19.6	19.7	19.4	16.6	20	50	220
Zinc	48	76	54	64	75	66	69	65	200	410
HMW PAH*	1.84	-	15.59	-	1.04	-	1.68	-	10	50

* normalised to 1 % TOC

3.5 Benthic ecology

3.5.1 Epifauna and flora

Observed epifauna and flora abundance and diversity is presented in Table 3.4 below. Transects 1 and 2 covered a similar habitat distribution and have been combined. Results are presented as the four distance categories, 10 m within mangrove habitat, 20 m and 30 m within firm muddy fine sand flats and 40 m within soft gloopy mud. Raw data can be viewed in Appendix E.

Overall, seven species were identified, with barnacles, cockles and mangrove pneumatophores dominating abundance counts. Mangrove pneumatophores were only present in the 10 m band, within marginal mangrove habitat. Cockles were distributed throughout transects, present at each distance.

Biopores (mud crab holes) are included as a proxy for presence and abundance of crabs (varying species) present in the bed and are very abundant at all distances.

Table 3.4: Intertidal epifauna and flora sample abundance results

Species	Species name	10 m	20 m	30 m	40 m
Cockle	*Austrovenus stutchburyi*	3	21	28	16
Barnacle	*Eliminius modestus*	42	-	-	-
Mangrove pneumatophores	*(Avicennia marina subsp. australasica)*	72	-	-	-
Tunnelling mud crab	*Helice crassa*	1	1	-	-
Top shell	*Diloma subrostrata*	-	-	2	-
Mud whelk	*Cominella glandiformis*	-	-	1	-
Pacific oyster	*Magallana gigas*	-	1	1	-

Species	Species name	10 m	20 m	30 m	40 m
Biopores	Generally inhabited by various crab species	214	147	200	179

3.5.2 Infauna

The results of the benthic infauna sampling are presented in detail in Appendix D. A summary of the results is presented in Table 3.5 below. AMBI analysis of the benthic infauna data is presented in Figure 3.1 and Figure 3.2.

Table 3.5: Summary of benthic infauna results for sample sites C1-C4

Site	Number of taxa	Number of individuals	Mean Shannon Weiner Diversity	Mean Shannon Weiner Evenness	Mean AMBI score	Disturbance Classification	Ecological status
C1	4	6	1.33	0.96	3	Slightly disturbed	Good
C2	5	10	1.42	0.88	3.6	Moderately disturbed	Moderate
C3	14	67	1.69	0.64	3.2	Slightly disturbed	Good
C4	6	25	1.24	0.69	2.7	Slightly disturbed	Good

Overall, the results show that the benthic infauna communities are characterised by a moderate to low level of species diversity, with samples containing between 4 – 14 different taxa. Sites ranged from moderate to good ecological status and were either slightly or moderately disturbed on the basis of AMBI analysis.

No nationally 'Threatened' or 'At Risk' marine invertebrate species were identified in any of the collected samples (Freeman et al., 2014). The results are interpreted as follows:

- Infauna results reflect a species distribution typical of the different habitat types (C1 and C2 within 'firm muddy fine sand flats' and C3 and C4 within 'soft gloopy mud' Appendix A: Figure 1). Species diversity is relatively similar in all samples (0.64 – 0.96 mean Shannon Weiner evenness), although the presence of polychaete worms increases in C3 and C4 samples e.g. *Polychaeta: Nereidae* that are characterised as ecological group III tolerant to disturbance (higher sediment mud content).
- The number of taxa ranged from 4 (C1) to 14 (C3) and the number of individuals per sample ranged from 6 (C1) to 67 (C3).
- Mean Shannon-Weiner evenness scores ranged from 0.64 – 0.96 (Shannon – Weiner evenness scores range from 0 - 1), indicating that no particular species was dominant in sites C1 and C2 but certain species were more dominant within C3 and C4 (polychaete worms).
- Mean Shannon-Weiner diversity scores ranged from 1.24 – 1.69 (Shannon – Weiner diversity scores range from 0 - 4), indicating a low community complexity within all samples.
- Proportionally, species distribution for C1, C3, C4 was higher in ecological group III (intolerant species), indicating an 'unbalanced' benthic community health (refer Figure 4.1).
- Species distribution for C2 was highest in ecological groups II (indifferent species) and (V first-order opportunistic species).

- Mean AMBI scores (2.7 - 3.6) indicate that sites ranged from slightly disturbed (good ecological status) to moderately disturbed (moderate ecological status) (refer to Figure 4.2). C2 is on the threshold of slightly to moderately disturbed.
- In C3, 58% of the sample could not be assigned a sensitivity to disturbance score which is likely due to the high presence of Decapoda larvae that could not be identified to genus level and therefore assigned a value. This will affect the disturbance classification and mean AMBI scores presented.

Previous work undertaken for the redevelopment of 'the landing' which includes the coastal boardwalk (White, 2009), sampled subtidal and intertidal fauna[5]. Although benthic cores were sampled in a different habitat (subtidal), results indicate a similar species assemblage to what was found in the project area, a dominance of polychaete species, in particular *Boccardia sp.* 'The landing' sampling identified mud crab species and snapping shrimp, both present in the project area. Based on the close proximity of 'The Landing' sampling and the project, it is likely that this data is representative of the soft sediment benthic fauna present in and surrounding the project footprint.

Similarly, an ecological assessment completed for the Greenhithe Bridge watermain and causeway (on the northern side of Hobsonville Point), presented benthic infauna results with a dominance of polychaete worms, in particular *Aricidea* sp. and *Nereidae* reflective of firm muddy sand and soft gloopy mud habitats (T+T, 2015).

[5] Located approximately 400 m from the project footprint.

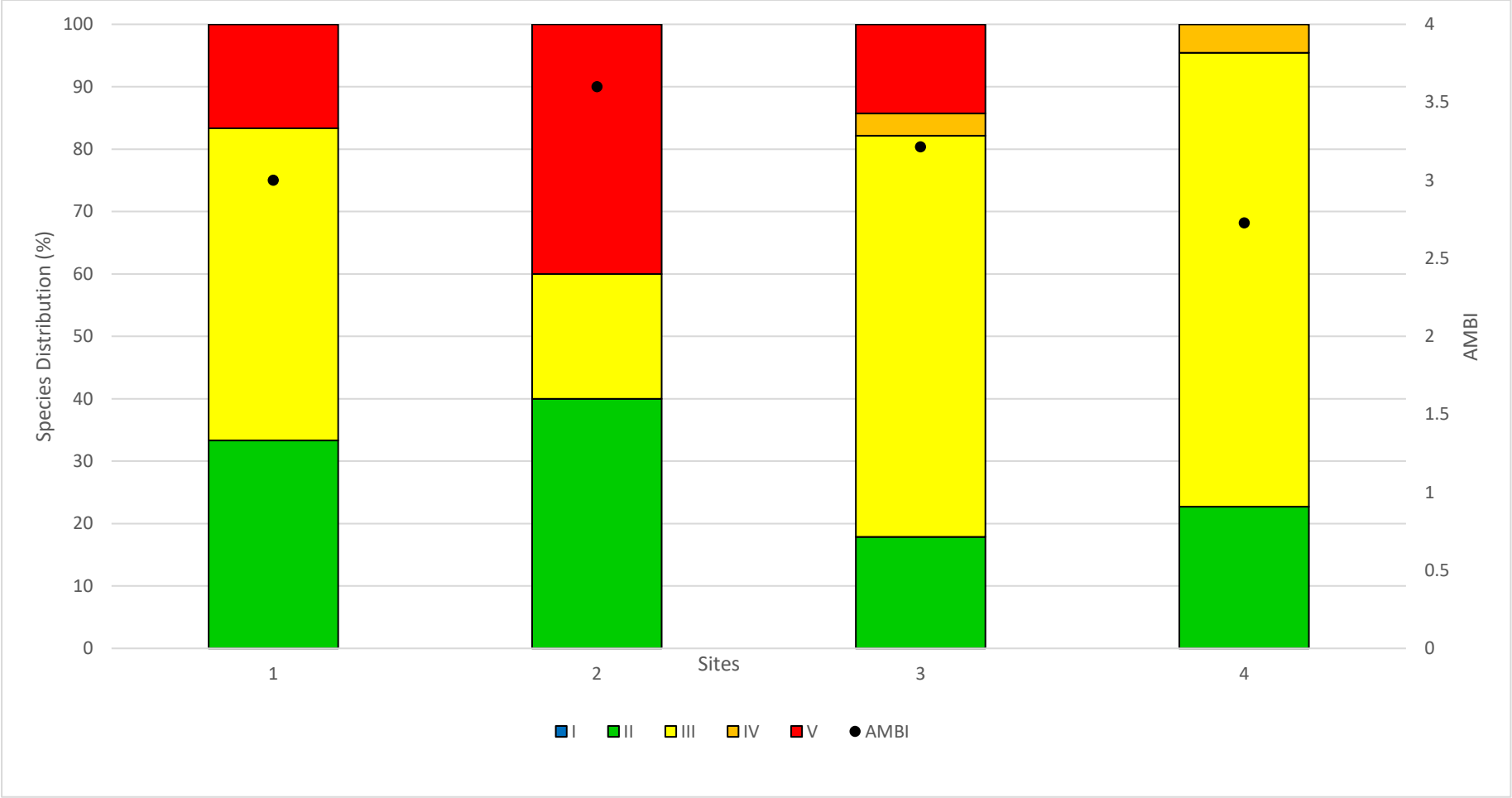


Figure 3.1: 2019 AMBI results for proposed works area Sites C1-C4. Species (Ecological) groups are based on sensitivity to disturbance: Group I (Blue) species: very sensitive; Group II (Green) species: indifferent; Group III (Yellow) species: intolerant; Group IV (Orange): second-order opportunistic species; Group V (Red): first-order opportunistic species.

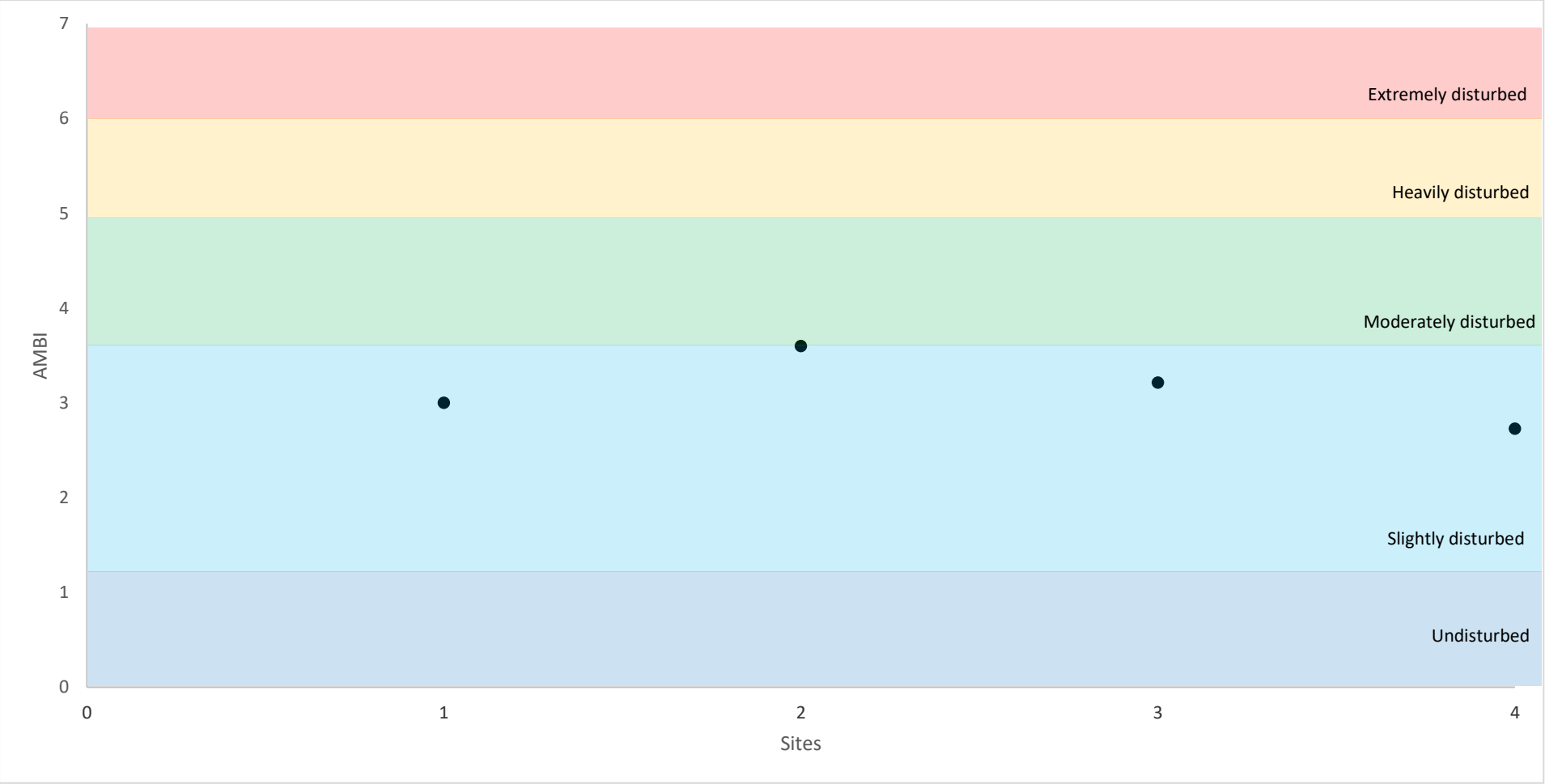


Figure 3.2: AMBI results showing disturbance for the proposed work area C1-C4. Data for each station consists of a single sample.

3.6 Marine mammals

Marine mammal species recorded in the Hauraki Gulf have been identified by Golder Associates (2018). These species and associated threat status are presented in Table C-1 in Appendix C. While more than 22 species of whales and dolphins have been recorded in the Hauraki Gulf, only a small number have been recorded within the Waitematā Harbour. Common dolphins (*Delphinus delphis*), bottlenose dolphins (*Tursiops truncates*), orca (*Orcinus orca*) and New Zealand fur seals (*Actocephalus forsteri*) have all been known to enter the Waitematā Harbour (Golder Associates, 2018). Additionally, two leopard seals (*Hydrurga leptonyx*) have been regularly sighted in Westhaven Marina and the upper Waitematā Harbour since 2015 (Golder Associates, 2018). The New Zealand Threat Classification lists bottlenose dolphins as Nationally Endangered, while orca are listed as Nationally Critical. Common dolphins and the New Zealand fur seal are listed as Not Threatened, while the leopard seal is listed as a At-risk – naturally uncommon (Baker *et al.*, 2019).

Marine mammals are unlikely to be any more than occasionally present within the upper Waitematā Harbour in the vicinity of Hobsonville Point.

3.7 Fish

No survey for fish was carried out as part of this investigation. However, the diversity of fish species frequenting the project area is likely to be similar to that recorded near the project area and in the wider Waitematā Harbour.

Fish species likely or potentially present in the project area (based on review of existing reports) include the Australian anchovy (*Engraulis australis*), yellow-eye mullet (*Aldrichetta forsteri*), striped mullet (*Mugil cephalus*), yellow belly flounder (*Rhombosolea leporina*), New Zealand flounder (*Rhombosolea plebeia*), snapper (*Pagrus auratus*), kahawai (*Arripus trutta*), spiny dogfish (*Mustelus lenticulatus*), spotties (*Notolabrus celidotus*), parore (*Girella tricuspidata*), jack mackerel (*Trachurus novazelandiae*), eel (*Anguilla australis*), conger eel (*Conger wilsoni*), koheru (*Decapterus koheru*), and school sharks (*Galeorhinus galeus*) (Auckland Regional Authority, 1983; Inglis *et al.,* 2000).

There is no information to suggest that the project area is specifically utilised by any of these fish species to the extent that the species or local population is dependent upon the existing habitat (Inglis *et al*., 2000). Ferry and boat movements, and dredge operations may also discourage some fish species from utilising the project area.

3.8 Seafood resource species

For the purposes of this report seafood resource species are considered to be sessile marine invertebrate species. While other seafood resource species (e.g. fish species) are likely to be present, for the purposes of this assessment the effects on sessile species have been considered separately to fish species. This is on the basis that fish are highly mobile, and have the ability to leave the project site, and therefore it is appropriate to assess potential effects separately (refer to Section 3.7 for details on fish species in the project area).

Kaimoana species identified in the project area include:

- Pacific oysters
- Cockles
- Gastropods (Top shell and Mud whelk)

Pacific oysters and gastropods were identified in low numbers (1 or 2 of each) in epifauna surveys however were small and not of an attractive edible size. Cockles were more abundant and up to 30 % of those sampled at the attractive edible size (25 mm wide). A total of 68 cockles were found in

the epifauna surveys, however the majority in the surrounding area were cockle shells (not live) that have settled in this depositional environment.

Although the area is near to residential communities there is no safe access down to the intertidal area with access blocked by the basalt sea wall. The close proximity of the ferry jetty and historical development in the area may also deter harvest activity within the area. The majority of cockles were under the attractive edible size limit and so again are generally not suitable for consumption.

3.9 Biosecurity

The Marine Biosecurity Porthole (MBP), a web-based system, was checked to assess if non-indigenous species are likely to be present in the project footprint[6]. The MBP represents the most complete source of information on the national distribution of non-native marine species in New Zealand. Data from the portal comes from four principal sources, including:

- Port Biological Baseline Surveys;
- Marine High-Risk Site Surveillance;
- Marine Invasive Taxonomic Service; and
- Other verified observations of non-native marine species

The MBP lists 60 non-indigenous species as being present within the Waitematā Harbour (Ministry for Primary Industries, 2017). Within 400 m of the proposed project footprint, the MBP lists seven non-indigenous species, including:

- Undaria *(Undaria pinnatifida);*
- Clubbed tunicate *(Styela clava);*
- Mediterranean fanworm *(Sabella spallanzanii);*
- Asian paddle crab *(Charybdis japonica);*
- Carpet sea squirt *(Didemnum vexillum);*
- File shell *(Limaria orientalis);* and
- Asian date mussel *(Arcuatula senhousia).*

[6] https://www.marinebiosecurity.org.nz/search-for-species/ (accessed 2 September 2019)

4 Assessment of ecological effects

4.1 Potential ecological effects associated with the project

Construction of the proposed marine recreation facility and associated jetty and pontoons will involve temporary disturbance to the intertidal and subtidal seabed from pile installation of the concrete building platform piles, timber jetty piles and pontoon guide piles. Once constructed, the facility and associated infrastructure will result in the modification of approximately 50 m^2 of existing intertidal and subtidal habitat within the footprint of the piles and constructed platform, with the total area over the CMA comprising approximately 994 m^2. The occupied space will create shading on the seabed beneath the marine recreation centre platform, timber jetty, gangway and floating pontoon.

Actual and potential ecological effects include:

- Temporary disturbance and temporary construction related effects and noise generated from piling on marine mammals;
- Temporary disturbance and temporary construction related effects on fish and coastal birds;
- Potential adverse effects on intertidal foraging habitats for coastal birds;
- Loss of up to 50 m soft substrate habitat for benthic fauna as a result of piles and temporary construction related effects;
- Effects on benthic fauna due to habitat modification and shading of the sea bed beneath new structures (approximately 994 m^2);
- Potential effects on seafood resource species; and
- Potential biosecurity effects.

An assessment of each identified potential ecological effect of the project based on EIANZ (2018) guidelines is presented below.

4.1.1 Effects on coastal birds

Potential adverse effects on coastal birds associated with the proposed Project include:

- Local and temporary disturbance of birds in proximity to the project footprint during construction activities; and
- Operational effects include ongoing disturbance to coastal birds in the area following completion of the marine recreation facility.

The intertidal mud flats within and adjacent to the footprint of the proposed marine recreational facility provide valuable foraging habitat for several species of wading birds and seabirds, as outlined in Section 3.3.

Based on the potential presence of 'Nationally threatened' species, the area surrounding the proposed marine recreational facility is considered to be of 'Very High' value (Appendix C Table 1).

During the site assessment, no high tide roosting sites were identified and there was no evidence of nesting sites. At high tide, water reaches the base of the existing seawall, meaning that any roosting or nesting would occur above the seawall on a mown grass berm adjacent to Boundary Road. This habitat is not considered suitable nesting for coastal birds (due to human activity, noise and lack of cover).

We consider there to be a 'Negligible' magnitude of effect on coastal birds because:

- There is no suitable roosting habitat in the proposed project footprint based on high levels of human disturbance along Boundary Road;

- No suitable nesting habitat was observed on site; and
- Coastal birds are likely to generally avoid the project footprint and immediate surrounds during the 2-month construction period, including banded rail, which could intermittently forage in the vicinity.

In the long term, it is likely that some coastal birds would use the proposed wharf, gangway and floating pontoons for roosting purposes.

We therefore consider the overall level of adverse effects of the proposed project on coastal birds to be 'Low' and no specific effects management measures are considered necessary.

4.1.2 Effects on benthic fauna

Potential adverse effects on benthic fauna in the project footprint include:

- The disturbance of benthic infauna and epifauna from construction and piling activities (short term effects and long-term effects), including sediment disturbance;
- The permanent loss of up to 50 m soft substrate habitat for benthic fauna as a result of piles;
- Effects due to habitat modification and shading of the sea bed beneath structures (approximately 994 m^2); and
- Introduction of invasive species that out-compete native species as a result of the Project (refer to Section 4.1.6).

We consider the benthic fauna assemblage to be of 'Low' ecological value based on the following (and refer to Appendix C Table 2):

- The habitat types present within the project footprint are common within the immediate surrounding area and wider Waitematā Harbour;
- Benthic surveys within the project footprint identified that the benthic assemblage is indicative of a slightly to moderately disturbed environment. Species present included those with tolerance to muddy environments;
- Benthic infauna results indicate a moderate to low level of species diversity;
- There is limited vegetation present (mainly pneumatophores), providing limited habitat for native fauna; and
- None of the benthic fauna species recorded in site-specific surveys or identified in the literature are listed as nationally 'Threatened' or 'At Risk' species (Freeman *et al*., 2014).

Overall, we consider the magnitude of effect on the benthic infauna and epifauna to be 'Moderate' in the short term on the basis of loss or alteration to key elements of the existing baseline condition, however the scale of this loss is small (< 50 m^2) in the context of the wider habitat available. In the long-term we consider there to be a 'Negligible' effect, whereby there is a very slight change from the existing baseline condition. This assessment is supported by the following:

- All or most benthic infauna within the 50 m^2 proposed piling footprints will not survive. However, benthic fauna are expected to recolonise the newly created habitat on the piles following the works within 1 to 3 years post-disturbance. Auckland Regional Council TP 127 indicates the likely species that will recolonise wharf piles (concrete and timber) (ARC, 1999). Potential fauna based on existing wharf piles in the Waitematā include periwinkles (*Austrolittorina sp*), barnacles, and Pacific oysters. On and amongst the oysters grow a variety of sea squirts and, in deeper locations, brightly coloured sponges. Chitons are sometimes present, as well as cushion stars (*Patiriella regularis*) and sometimes the starfish *Coscinasterias calamaria*.

- Previous studies elsewhere in New Zealand (e.g., Gardner & Wear, 2006; Sneddon *et al*., 2015), as well as overseas (e.g., those studies revised by Newell *et al.,* 1998) indicate that the type of communities present within the project footprint would become re-established in 1 to 3 years post-disturbance. In the case of mobile surface-dwelling species (such as crabs), the duration will be much shorter than this, i.e. within weeks.
- The disturbance of the seabed will potentially result in localised sediment generation from construction and piling activities. The potential for sediment discharges will be controlled by standard construction measures as outlined in the CMP that will be used as appropriate to minimise any sediment generated from piling activities. Further details will be included in the CMP once it is developed; and
- The disturbance of potentially contaminated sediment has the potential to impact marine benthic fauna. As outlined in Section 3.4, with the exception of one site, contaminant levels for copper, lead, zinc and HMW PAH were all within DGV (ANZECC, 2018). We expect the piling works to cause very localised disturbance of seabed sediment and, based on this, the sediment loss to the water column is expected to be very small, with any subsequent re-settling of sediment also expected to be limited.

We therefore consider the overall level of effect on benthic infauna and epifauna to be 'Low' in the short-term (based on that no 'Threatened' or 'At Risk' species were identified and that benthic results indicated a slightly to moderately disturbed environment), and 'Very Low' in the long-term (based on the expected re-colonisation of the proposed piles by encrusting epifauna).

4.1.3 Effects on marine mammals

Potential adverse effects on marine mammals include:

- The local and temporary disturbance of marine mammals, causing auditory masking and behavioural response, in proximity to the project footprint during construction activities; and
- Noise generated from piling that may impact either temporarily (Temporary Threshold Shift (TTS)) or permanently (Permanent Threshold Shift (PTS)) the hearing sensitivity of marine mammals.

As outlined in the Resource Consent Engineering Design Report (T+T, 2019), impact piling is the primary source of noise from construction activities.

Common dolphins, bottlenose dolphins, orca, New Zealand fur seals and leopard seals are all known to enter the wider Waitematā Harbour area on varying timescales (Golder Associates, 2018). However, given the location of the proposed marine recreation facility in the intertidal zone, none of these species are likely to occur frequently within the project footprint. It is possible that marine mammals use the deeper subtidal channel adjacent to Hobsonville Wharf (and the project footprint) that provides access to the upper arms of the Waitematā. The Central Waitematā Harbour is not a critical habitat for feeding, breeding or migration for the species of interest. Therefore, no nationally 'Threatened' or 'At Risk' marine mammals are likely to occur within the project footprint or immediate surrounds.

Based on above, the project footprint is considered to be of 'Low' value as habitat for marine mammals and the likelihood of marine mammals being present is low.

Concerning the magnitude of effect on marine mammals, the acoustic assessment has developed a conservative model[7] for underwater acoustics, demonstrating the magnitude of effect for both

[7] Model is considered conservative based on development of a 'worst case' scenario, as outlined in the Styles Group report. Noise levels assume source spectra for larger piles, sediment with broken shells and stones and deeper waters.

impact and vibratory piling (depending on the method to be used by the preferred contractor). The outputs from the model are summarised as follows:

- Impact piling
  - The critical distances for PTS (referred to as the PTS zone) for marine mammals and fish are not applicable - the sound levels are too low and do not exceed the criteria;
  - The critical distance for TTS is approximately 21 m - 31 m for Phocid pinnipeds (leopard seal);
  - TTS effects are within 1 m for fish;
  - No TTS effects are expected for mid-frequency cetaceans (killer whales, bottlenose dolphins and common dolphins), and Otariid pinnipeds (fur seals) in this case;
  - Auditory masking effects may occur within a maximum range of 774 m for common dolphins and 517 m for fish.
  - The 50 % Listening Space Reduction (LSR) contour is at approximately 159 m for common dolphins, and 382 m for fish; and
  - The limit of audibility for marine mammals is at a maximum of 1,092 m, and 456 m for fish. Noise-related effects are therefore not possible inside the lower Waitematā Harbour where marine mammals are occasionally observed.
- Vibratory piling
  - PTS effects are not expected for marine mammals or fish in this case – the sound levels are too low and do not exceed the criteria.
  - TTS effects may occur for mid-frequency cetaceans (killer whales, bottlenose dolphins and common dolphins) between 10 m – 14 m. For phocid pinnipeds (leopard seals), TTS effects may occur between 43 m – 80 m. For phocid pinnipeds, however, the TTS radius decreases to between 32 m – 63 m if the vibratory piling duration halves from 60 to 30 minutes. These may be overreaching due to the conservativeness of the vibratory piling sound exposure model.
  - TTS effects may occur between 29 m – 63 m for fish. This decreases to 21 m – 53 m if the vibratory piling decreases to 30 minutes from 60.
  - No TTS effects are expected for otariids (fur seals).
  - Auditory masking effects may occur within a maximum range of 1,177 m for common dolphins and 488 m for fish.
  - The 50 % LSR contour is at approximately 310 m for common dolphins, and 308 m for fish.
  - The limit of audibility for marine mammals is at a maximum of 1,750 m and 477 m for fish.

With reference to Appendix C Table 3 we consider there to be a 'Negligible' magnitude of effect on marine mammals for the following reasons:

- Intertidal habitat within the project footprint is not considered valuable habitat for marine mammals;
- The underwater acoustics model identifies that there are no PTS effects on marine mammals for either percussive or vibratory piling methods;
- The model also identifies that leopard seals (phocid pinnipeds) are the marine mammal (in the Waitematā Harbour) most sensitive to underwater piling noise. The maximum extent of the zone for TTS effects on leopard seals is 80 m;

- The limit of audibility for marine mammals is 1,750 m (based on vibratory piling). It is expected that in the unlikely event that any marine mammal moved within the limit of audibility, it would show a behavioural avoidance to the noise source and actively move away from the noise source; and
- Construction activities are expected to take approximately 2 months, with piling activities constituting a shorter timeframe and occurring intermittently.

In addition to the above, potential effects of noise generated from piling activities can be minimised by implementing the following procedures as presented in the acoustic assessment report:

  - Visual monitoring prior to commencing piling operations to ensure there are no marine mammals in the area. The Styles Group report recommends the largest TTS area (80 m) should be used for visual monitoring, as it is conservative for all other species and piling methods (Styles Group, 2019);
  - Use 'soft starts' (gradually increasing the intensity of piling) and minimise duty cycle;
  - Undertake visual monitoring during piling operations to identify any marine mammals that enter the area; and
  - Shut down procedures in the event that a marine mammal is identified within the TTS area.

In summary and following the EIANZ (2018) framework, the magnitude of effect of the project on marine mammals is likely to be negligible based on the unsuitability of the habitat (given that it is a small intertidal area), the small size of the project footprint (< 994 m^2 compared to available habitat in the wider Waitematā Harbour) and the temporary duration of effects (a maximum of 2 months). Moreover, it is unlikely that common dolphins, bottlenose dolphins, orca, New Zealand fur seals and leopard seals will be adversely affected by the intermittent sound of construction activities, given the short-term nature of the works and auditory management protocols that will be put in place.

We therefore consider the overall level of effect on marine mammals to be 'Very Low' and no additional mitigation is warranted over and above the management measures described above.

4.1.4 Effects on fish

Potential adverse effects on fish species include:

- The local and temporary disturbance of fish species in proximity to the project footprint during construction activities (predominantly piling); and
- Potential for sediment discharge (reduced water clarity) and general disturbance from construction related activities.

The intertidal project footprint provides limited and intermittent habitat and foraging opportunities for fish species present in the Waitematā Harbour. Based on this, the project footprint is considered to be of 'Low' value for fish with respect to the EIANZ (2018) framework.

We consider the magnitude of effect to be 'Negligible' for fish species because:

- The size of the project footprint is small (994 m^2) compared to available habitat in the wider Waitematā Harbour;
- The duration of any effect will be short as construction activities are expected to last approximately 2 months. The EIANZ guidelines consider any effect that lasts less than five years to be short term (EIANZ, 2015);
- Fish species are likely to avoid the area during piling and construction activities;
- The underwater acoustic model (outlined in Section 4.1.3) identifies no PTS effects on fish and a maximum distance of 63 m for TTS effects using vibratory piling methods (Styles Group,

2019). Soft starts, outlined in Section 4.1.3 to reduce effects on marine mammals, will also reduce auditory effects on fish;

- The potential for sediment discharges and disturbance will be controlled by the standard construction measures outlined in the CMP, and with appropriate controls on piling activities to prevent spills into the marine environment. Further details can be found in the CMP, to be developed.

We therefore consider the overall level of effect on fish species to be 'Very Low' and no additional mitigation is warranted over and above the management measures described above.

4.1.5 Effects on seafood resource species

As detailed in further information in Section 3.8 above, for the purposes of this report seafood resource species are considered to be sessile marine invertebrate species. A small number of Pacific oysters were observed in the project footprint and the surrounding area. This species was accidentally introduced to New Zealand, so is of no conservation concern. Gastropods were also identified in low numbers in epifauna surveys however were small and not of an attractive edible size. Cockles were more abundant and up to 30 % of those sampled at the attractive edible size, with a total of 68 live cockles were found in the epifauna surveys.

The location of the all seafood resource species (in the inaccessible intertidal area) does not make them attractive for collection or human consumption. Therefore, we consider the values of the seafood resources within the Project footprint to be 'Low'.

We consider the magnitude of effect on seafood resource to be 'Negligible' on the basis that a limited number of seafood resource species will not survive construction works, such as piling. However, based on the small area impacted (< 50 m^2) and that some species will recolonise the newly created habitat along the proposed piles and pontoons, we consider there to be only a very slight change from the existing baseline conditions.

Overall, we consider there to be a 'Very Low' level of effect on seafood resource species and no specific effects management is needed.

4.1.6 Effects on biosecurity

Potential adverse effects associated with biosecurity includes the potential transferral of non-indigenous species to and from the Project footprint.

The assemblage of non-indigenous species in the Project footprint is 'Low' value on the basis these species are invasive. Non-indigenous species identified near the Project footprint include the Mediterranean fanworm which is listed as a secondary target species by MPI (and is a notifiable organism under the Biosecurity Order (Notifiable Organisms) 2016). Furthermore, 60 non-indigenous species are known to be present within the Waitematā Harbour and subsequently are likely present in the area surrounding the project footprint.

The magnitude of effect of potentially spreading biosecurity risk species (particularly from the Project site) is 'Very High' on the basis that approximately 60 non-indigenous species are known to be present in the Waitematā Harbour, and that Mediterranean fanworm (listed by MPI as an unwanted secondary target species, and a notifiable organism under the Biosecurity Order (Notifiable Organisms) 2016) is present in the Maritime Museum Basin area. Construction equipment being brought into the project footprint has potential to transfer non-indigenous species to the area (and wider Waitematā Harbour) from other locations in New Zealand.

Based on the existing 'Low' level of ecological value for biosecurity species and a 'Very High' magnitude of effect, we consider the overall level of effect to be 'Moderate'. Under the EIANZ

framework, overall effects of ‘Moderate’ or greater, warrant efforts to avoid, remedy or mitigate adverse ecological effects.

To mitigate the risk of transferring non-indigenous species, we recommend that the proposed contractor engaged to undertake construction implements appropriate biosecurity protocols that identify and minimise the risk of spreading unwanted/biosecurity risk species.

The implementation of an appropriate biosecurity management protocols would reduce the magnitude of effect on biosecurity species from ‘Very High’ to ‘Negligible’, translating to an overall ecological effect of ‘Very Low’.

5 Ecological effects summary and conclusion

Due to the relatively small area affected by the project footprint, the fact that new proposed hard structures within the project footprint will be re-colonised, we consider that no specific mitigation for the long-term effects on marine ecology is required. Short-term, construction related effects on water quality will be managed by standard construction management techniques, such as sediment controls to be outlined in the proposed CMP.

As detailed in Section 4.1.3 and outlined in the acoustic assessment, standard management protocols are proposed to minimise the potential effects of noise generated activities on marine fauna from piling activities. Implementation of biosecurity management protocols are also recommended to minimise the risk of spreading biosecurity risk species as a result of construction.

Our ecological effects summary is set out in Table 5.1 below:

Table 5.1: Summary of ecological effects

Ecological values within the project footprint	Magnitude of effect with actions to reduce the effect	Potential EcIA overall level of effect
Coastal birds - High on the basis that 'At Risk' species are potentially present within the footprint.	Negligible on the basis that there is limited roosting habitat present along the shoreline, existing human disturbance and that Coastal Birds will likely avoid the project footprint and immediate surrounds during 2-month construction period.	Low No specific mitigation measures required.
Benthic fauna – Low on the basis that habitat common within wider Waitematā Harbour, low to moderate species diversity and environment slightly to moderately disturbed.	Short term - High on the basis that all benthic organisms within the piles footprint will be lost. Long term – Negligible as communities will rapidly recover in the short term (1 – 3 years) and colonise pile structures.	Short term: Low. Long term: Very Low No specific mitigation measures required.
Marine mammals – Low on the basis that no Nationally 'Threatened' or 'At Risk' species are likely to be present in the project footprint.	Negligible on the basis that the project footprint is small and the proposed construction activity is temporary in nature. The level of noise generated from piling will be minimised and protocols adopted that involve visual monitoring for marine mammals.	Very Low. Implement auditory procedures and undertake soft starts during piling.
Fish species – Low on the basis the Project footprint has limited habitat and feeding opportunities.	Negligible on the basis that the project footprint is small and the proposed construction activity is temporary in nature. Auditory management measures that will be undertaken to minimise effects on marine mammals will also minimise effects on fish species.	Very Low. No specific mitigation measures required.

Ecological values within the project footprint	Magnitude of effect with actions to reduce the effect	Potential EcIA overall level of effect
Seafood resource species – Low on the basis that limited species present and footprint generally inaccessible.	Negligible on the basis that species are expected to colonise pile structures post construction.	Very Low No specific mitigation measures required.
Biosecurity – low value on the basis of known non-indigenous species in the Project area and 60 known invasive species in the wider Waitematā Harbour.	Low effect assuming appropriate biosecurity protocols are implemented to identify and minimise risk of spreading biosecurity risk species.	Very Low Appropriate biosecurity measures to be implemented.

6 Applicability

This report has been prepared for the exclusive use of our client HLC (2017) Ltd, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that HLC (2017) Ltd will submit this report to Auckland Council in support of an application for resource consent for the development described herein and that Auckland Council will rely on this report for the purpose of assessing that application.

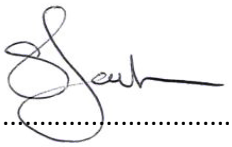
Tonkin & Taylor Ltd

Report prepared by:

.....

Lucy Underwood

Ecologist



.....

Susan Jackson

Senior Aquatic Ecologist

Authorised for Tonkin & Taylor Ltd by:

.....

Shannon Richardson

Project Director

Technically reviewed by Dean Miller, Principal Ecologist

LUUN
p:\1009186\workingmaterial\catalina bay_ecological assessment_vs2 final.docx

7 Reference List

Auckland Council (formerly Auckland Regional Council) (1999). *Intertidal and subtidal biota and habitats of the central Waitematā Harbour*. Technical Report 127.

Auckland Council. *Geomaps viewer – Significant Ecological Areas layer.* Accessed 13th February 2019;

Auckland Regional Authority (1983). *Ecology of the Upper Waitematā Harbour*. Auckland Regional Water Board 29 pp.

Auckland Regional Council (1992). Intertidal seafood resources of the east coast of Auckland. Prepared for Auckland Regional Council by Bioresearches

Australian and New Zealand Environmental and Conservation Council (ANZECC) (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 1, The Guidelines

Baker, C.S., Boren, L, S., Childerhouse, S., Constantine, R., van Helden, A., Lundquist, D., Rayment, W. and Rolfe, J. (2019). *Conservation status of New Zealand marine mammals, 2019*. Department of Conservation.

Borja, A., Franco. J. and Perez, V. (2000). *A marine biotic index to establish the ecological quality of soft-bottom benthos within European estuarine and coastal environments.* Marine Pollution Bulletin, 40 (12) 1100:1114.

Environment Institute of Australia and New Zealand (2018). Ecological Impact Assessment Guidelines for New Zealand.

Freeman, D., Schnabel, K. E., Marshall, B., Gordon, D. P., Wing, S., Tracey, D. M., Hitchmough, R. (2014). *Conservation status of New Zealand marine invertebrates, 2013*. Department of Conservation.

Gardner J.P.A. & Wear, R.G. (2006). *Changes in subtidal macroinvertebrate community structure in Wellington Harbour (New Zealand) following a large-scale natural die-off*. NZ Journal of Marine and Freshwater Research 40, 29-42.

Golder Associates. (2018). *America's Cup 36. Auckland 2021 - Assessment of Coastal Environmental Effects associated with the development of AC 36 Facilities*. For Resource Consent Application, Wynyard Basin and Ferry and Fishing Industry relocation facility.

Inglis, G., Gust, N., Fitridge, I., Floerl, O., Woods, C., Hayden, B and Fenwick, G. (2000). Port of Auckland: Baseline survey for non-indigenous marine species (Research Project ZBS 2000/04). Biosecurity Technical Paper No: 20005/08. Cited in: Golder Associates. 2018. *America's Cup 36. Auckland 2021 - Assessment of Coastal Environmental Effects associated with the development of AC 36 Facilities*. For Resource Consent Application, Wynyard Basin and Ferry and Fishing Industry relocation facility.

Ministry for Primary Industries. (2017). *Marine High Risk Site Surveillance Programme*. MPI Technical Paper Number 2017/45

Muxika, I., Borja, A. and Bonne, W. (2005). *The suitability of the marine biotic index (AMBI) to new impact sources along European coasts*. Ecological Indicators, 5 (1) 19:31.

Newell, R.C, Seiderer, L.J., Hitchcock, D.R. (1998). *The impacts of dredging works in coastal waters: A review of the sensitivity to disturbance and subsequent recovery of biological resources on the seabed.* Oceanography & Marine Biology: an annual review 36: 127-178.

Robertson, B., Gardner, J. and Savage, C. (2015). *Macrobenthic-mud relations strengthen the foundation for benthic index development: A case study from shallow, temperate New Zealand estuaries*. Ecological Indicators (58) 161:174

Robertson, H.A., Baird, K., Dowding, J.E., Elliott, G.P., Hitchmough, R.A., Miskelly, C.M., McArthur, N., O'Donnell, C.F.J., Sagar, P.M., Scofield, P and Taylor, G.A. (2017). *Conservation status of New Zealand birds, 2016*. Department of Conservation.

Sneddon, R., Dunmore, R., Berthelsen, A. (2015). *Benthic monitoring for disposal of spoil from maintenance dredging in Lyttelton Harbour: 2015*. Report prepared for Lyttelton Port of Christchurch Ltd.

Strachan Group Architects (2019) Marine Sports Recreation Centre HLC. Developed Design DRP 2+3 Updates. 16.07.2019

Styles Group (2019) Acoustic Assessment – Catalina Bay Marine Sports Recreation Centre. Prepared for HLC: 5 September 2019.

T+T (2015). Greenhithe Bridge Watermain Duplication and Causeway Technical Report D: Ecological Assessment.

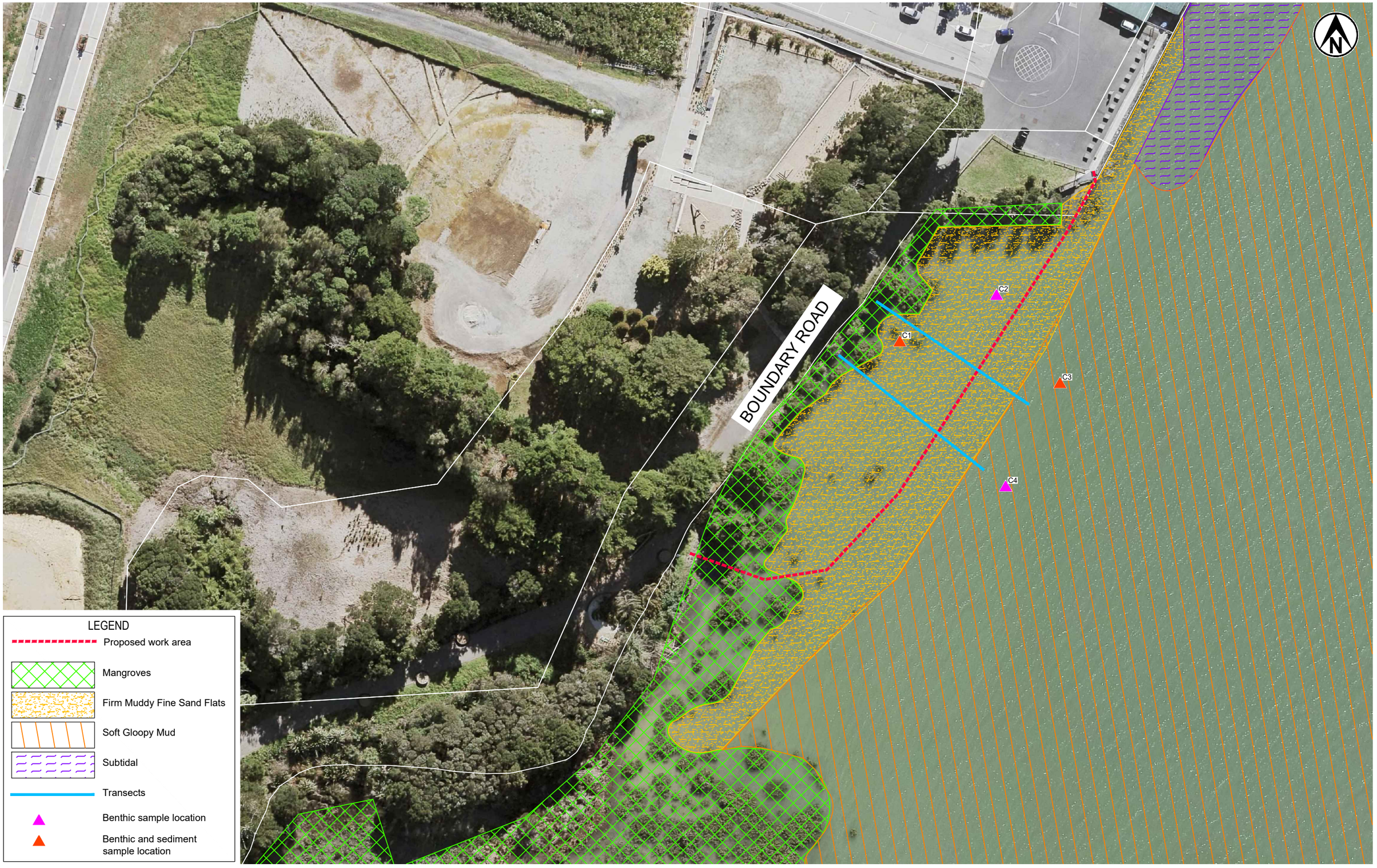
T+T (2019) Marine Recreation Facility Catalina Bay, Resource Consent Engineering Design Report. Prepared for HLC (2017). Reference 1006452 v1.0

White, S.E (2009). Hobsonville Landing Development Marine Ecological Assessment. Prepared by Bioresearches.

Appendix A: Site Maps

- **Figure 1: Site and Sample Location Plan**
- **Figure 2: Significant Ecological Areas**

\\ttgroup.local\infrastructure\CAD\1009186\WorkingMaterial\CAD\FIG\1009186-MEA-F1.dwg 2019-Oct-24 11:13:35 AM Plotted By: ROSEMARY SUTTON



Tonkin+Taylor

Exceptional thinking together www.tonkintaylor.co.nz

SCALE 1:750

0 10 20 30 40 50 (m)

Aerial photo and property boundaries sourced from Auckland Council GeoMaps

PROJECT No.	1009186	
DESIGNED	LU	Feb.19
DRAWN	RBS	Feb.19
CHECKED	SUJA	Sept.19
APPROVED	S JACKSON	DATE 24/10/19

CLIENT **HLC (2017) LTD**

PROJECT **MARINE ECOLOGICAL ASSESSMENT**

TITLE CATALINA BAY MARINE RECREATION CENTRE
Site and Sample Location Plan

SCALE (A3) 1:750 FIG No. Figure 1 REV 1

\\ttgroup.local\infrastructure\CAD\1009186\WorkingMaterial\CAD\FIG\1009186-MEA-F2.dwg 2019-Oct-24 11:13:43 AM Plotted By: ROSEMARY SUTTON

Tonkin+Taylor

Exceptional thinking together www.tonkintaylor.co.nz

SCALE 1:15,000

0 150 300 450 600 750 (m)

Aerial photo and SEAs sourced from Auckland Council GeoMaps

PROJECT No.	1009186	
DESIGNED	LU	Oct.19
DRAWN	RBS	Oct.19
CHECKED	SUJA	Sept.19
APPROVED	S JACKSON	DATE 24/10/19

CLIENT **HLC (2017) LTD**

PROJECT **MARINE ECOLOGY ASSESSMENT**

TITLE CATALINA BAY MARINE RECREATION CENTRE
Significant Ecological Areas

SCALE (A3) 1:15.000 FIG No. Figure 2 REV 1

Appendix B: Site Photographs

Photograph 1: proposed marine recreation facility area at high tide facing south

Photograph 2: proposed marine recreation facility area at low tide facing south

Photograph 3: Transect line looking seaward to Beach Haven

Photograph 4: Mangrove habitat adjacent to existing seawall facing seaward

Photograph 5: Base of seawall facing toward dredged subtidal channel and proposed floating pontoon

Photograph 6: Existing basalt seawall north of the proposed works area at high tide

Appendix C: EIANZ guidelines summary tables

Appendix C Table 1: Criteria for assigning ecological value to species

Ecological Value	Species
Very High	• Nationally Threatened species (Nationally Critical, Nationally Endangered, Nationally Vulnerable) found in the ZOI either permanently or seasonally.
High	• Nationally At Risk – Declining, found in the ZOI either permanently or seasonally.
Moderate	• Species listed as any other category of At Risk, found in the ZOI either permanently or seasonally.
Low	• Nationally and locally common indigenous species.
Negligible	• Exotic species, including pests, species having recreational value.

* Zone of Influence (ZOI) refers to all land, water bodies and receiving environments that could be potentially impacted by the project.

Appendix C Table 2: Characteristics of estuarine sites with low, medium and high ecological values.

Ecological Value	Characteristics
Very High	• Benthic invertebrate community typically has very high diversity, species richness and abundance. • Benthic invertebrate community contains dominated taxa that are sensitive. • Marine sediments typically comprise <25% smaller grain sizes. • Surface sediment oxygenated with no anoxic sediment present. • Contaminant concentrations in surface sediment significantly below ISQG-low effects threshold concentrations. • Invasive opportunistic and disturbance tolerant species absent. • Vegetation/macroalgae sequences intact and provides significant habitat for native fauna. • Habitat unmodified.
High	• Benthic invertebrate community typically has high diversity, species richness and abundance. • Benthic invertebrate community contains many taxa that are sensitive. • Marine sediments typically comprise <50% smaller grain sizes. • Surface sediment oxygenated. • Contaminant concentrations in surface sediment rarely exceed ISQG-low effects threshold concentrations. • Invasive opportunistic and disturbance tolerant species largely absent. • Vegetation/macroalgae provides significant habitat for native fauna. • Habitat largely unmodified.
Moderate	• Benthic invertebrate community typically has moderate species richness, diversity and abundance. • Benthic invertebrate community has both tolerant and sensitive taxa present. • Marine sediments typically comprise less than 75% silt and clay grain sizes. • Shallow depth of oxygenated surface sediment.

Ecological Value	Characteristics
	• Contaminant concentrations in surface sediment generally below ISQG-high effects threshold concentrations. • Few invasive opportunistic and disturbance tolerant species present. • Vegetation/macroalgae provides moderate habitat for native fauna. • Habitat modification limited.
Low	• Benthic invertebrate community degraded with low species richness, diversity and abundance. • Benthic invertebrate community dominated by tolerant organisms with few/no sensitive taxa present. • Marine sediments dominated by silt and clay grain sizes (>75%). • Surface sediment predominantly anoxic (lacking oxygen). • Elevated contaminant concentrations in surface sediment, above ISQG-high effects threshold concentrations (ANZECC, 2000). • Invasive, opportunistic and disturbance tolerant species dominant. • Vegetation/macroalgae provides minimal/limited habitat for native fauna. • Habitat highly modified.
Very Low	• Benthic invertebrate community degraded with very low species richness, diversity and abundance. • Benthic invertebrate community dominated by tolerant organisms with no sensitive taxa present. • Marine sediments dominated by silt and clay grain sizes (>85%). • Surface sediment anoxic (lacking oxygen). • Elevated contaminant concentrations in surface sediment, above ISQG-high effects threshold concentrations (ANZECC, 2000). • Invasive, opportunistic and disturbance tolerant species highly dominant. • Vegetation/macroalgae absent. • Habitat extremely modified.

Appendix C Table 3: Summary of the criteria for describing the magnitude of effect

Magnitude	Description
Very High	Total loss of, or very major alteration to, key elements/features/ of the existing baseline conditions, such that the post-development character, composition and/or attributes will be fundamentally changed and may be lost from the site altogether; AND/OR Loss of a very high proportion of the known population or range of the element/feature
High	Major loss or major alteration to key elements/features of the existing baseline conditions such that the post-development character, composition and/or attributes will be fundamentally changed; AND/OR Loss of a high proportion of the known population or range of the element/feature
Moderate	Loss or alteration to one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; AND/OR Loss of a moderate proportion of the known population or range of the element/feature

Magnitude	Description
Low	Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to pre-development circumstances or patterns; AND/OR Having a minor effect on the known population or range of the element/feature
Negligible	Very slight change from the existing baseline condition. Change barely distinguishable, approximating to the 'no change' situation; AND/OR Having negligible effect on the known population or range of the element/feature

Appendix C Table 4: Criteria for describing overall levels of ecological effects

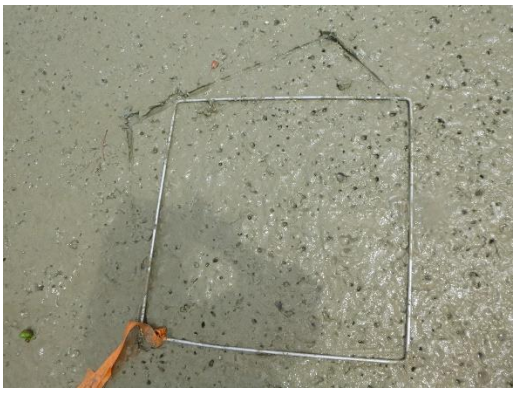
Magnitude of effect	Ecological Value				
	Very high	**High**	**Moderate**	**Low**	**Negligible**
Very high	Very high	Very high	High	Moderate	Low
High	Very high	Very high	Moderate	Low	Very Low
Moderate	High	High	Moderate	Low	Very Low
Low	Moderate	Low	Low	Very low	Very Low
Negligible	Low	Very low	Very low	Very low	Very Low
Positive	Net gain	Net gain	Net gain	Net gain	Net gain

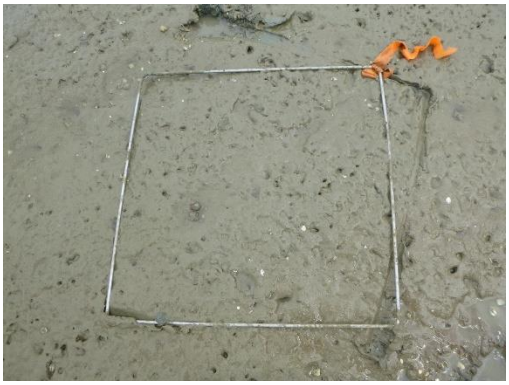
Appendix D: Benthic fauna results

Table E.1: Benthic fauna results from 7th February 2019 sampling

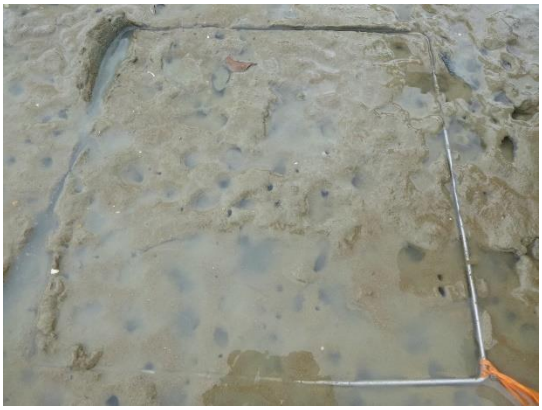
General Group	Taxa	Common Name	C-01	C-02	C-03	C-04
Nemertea	Nemertea	Proboscis worms			1	1
Bivalvia	Arthritica bifurca	Small bivalve			1	
Bivalvia	Austrovenus stutchburyi	Cockle (Huangi)		1	1	
Oligochaeta	Oligochaeta	Oligochaete worms	1		1	
Polychaeta: Paraonidae	Aricidea sp.				4	3
Polychaeta: Spionidae	Boccardia sp.	Polychaete worm	2	3	2	4
Polychaeta: Spionidae	Prionospio aucklandica	Polychaete worm	2		2	
Polychaeta: Capitellidae	Heteromastus filiformis	Polychaete worm			1	1
Polychaeta: Sigalionidae	Sigalionidae	Polychaete worm			1	
Polychaeta: Nereidae	Nereidae (juvenile)	Rag worms	1	1	14	15
Polychaeta: Nereidae	Nicon aestuariensis	Rag worm		1		
Polychaeta: Glyceridae	Glyceridae	Polychaete worm			1	1
Decapoda	Alpheus sp.	Snapping shrimp			1	
Decapoda	Austrohelice crassa	Tunnelling Mud Crab		4		
Decapoda	Hemiplax hirtipes	Stalk-eyed Mud Crab			3	
Decapoda	Decapoda (larvae Unid.)	Unidentified Crab Larvae			34	
Count: No of Individuals			**6**	**10**	**67**	**25**
Count: No of Taxa			**4**	**5**	**14**	**6**
SW_Diversity			**1.3297**	**1.4185**	**1.6904**	**1.2404**
SW_Evenness			**0.9591**	**0.8814**	**0.6405**	**0.6923**

Appendix E: Quadrat photos

	
Transect 1 10A	**Transect 1 10B**
	
Transect 1 10C	**Transect 1 20A**
	
Transect 1 20B	**Transect 1 20C**

	
Transect 1 30A	**Transect 1 30B**
	
Transect 1 30C	**Transect 1 40A**
	
Transect 1 40B	**Transect 1 40C**
	
Transect 2 10A	**Transect 2 10B**

	
Transect 2 10C	**Transect 2 20A**
	
Transect 2 20B	**Transect 2 20C**
	
Transect 2 30A	**Transect 2 30B**

	
Transect 2 30C	**Transect 2 40A**
	
Transect 2 40B	**Transect 2 40C**

www.tonkintaylor.co.nz

APPENDIX 16
CONSTRUCTION NOISE AND VIBRATION ASSESSMENT

Styles Group
Acoustics & Vibration Consultants

ASSESSMENT OF CONSTRUCTION NOISE AND VIBRATION EFFECTS

MARINE SPORTS RECREATION CENTRE CATALINA BAY, HOBSONVILLE POINT

PREPARED FOR

HLC (2017) Ltd

DATE

24 October 2019

Assessment prepared by Styles Group for HLC .

REVISION HISTORY

Rev:	Date:	Comment:	Version:	Prepared by:	Reviewed by:
1	5/09/19		Draft	Kelly Leemeyer, MASNZ Consultant Styles Group Dr. Matthew Pine Principal Styles Group	Jon Styles, MASNZ Director and Principal Styles Group
2	24/10/19		Final	Kelly Leemeyer, MASNZ Consultant Styles Group Dr. Matthew Pine Principal Styles Group	Jon Styles, MASNZ Director and Principal Styles Group

Table of Contents

Appendices

1.0 Introduction

HLC has engaged Styles Group to assess the noise effects of the proposed construction of a Marine Sports Recreation Centre at Catalina Bay, Hobsonville Point.

This report includes an assessment of the proposed construction works from an acoustics perspective, including:

- Noise level predictions prepared using Brüel & Kjær Predictor computer noise modelling software
- Recommended noise mitigation, noise management measures and conditions of consent for the project
- An assessment of the construction noise and vibration emissions in terms of the Auckland Unitary Plan (AUP) and the Resource Management Act (the Act).

To preface this report, the proposed earthworks will comply with the AUP permitted construction noise and vibration limits at all times.

This report must be read in conjunction with the Assessment of Environmental Effects (AEE) and application site plans. A glossary of acoustical terms used within this document is attached as Appendix A.

2.0 The proposed construction works

HLC are managing the development of the former Hobsonville Air Force base into a new township at Catalina Bay, Hobsonville Point. The project involves several stages and will include the removal of the existing sailing facilities, construction of residential apartments where the sailing facilities have been removed and adjacent to the Hangar, and the construction of a marine sports recreation centre. This assessment is only for the stage of works involving the construction of the recreation centre.

The existing area is currently undeveloped coastal and coastal transition land adjacent to the Hobsonville Point Coastal Walkway. It is proposed to construct a new marine sports recreation facility that will provide water access for the rowing and sailing clubs using the existing facilities, and for the public.

The works will involve the construction of the two-level recreation centre building. It will include a deck at the northern end of the building on the lower level and a balcony at the northern end of the building on the second level. North of the decked area a timber jetty extending 42 m east towards the main harbour channel, an aluminium gangway 28 m long and a floating concrete launch pontoon will be constructed. The works will also involve dredging to allow access for small keeled yachts and other vessels (we understand that this is authorised by separate consent).

3.0 Surrounding site and noise receivers

The Site for the proposed marine recreation centre is partly on land and partly in the sea and crosses a number of zones, including the *Coastal – Marina Zone, Coastal – General Coastal Transition Zone, Coastal – Coastal Transition Zone* and *Open Space – Informal Recreation Zone.*

The surrounding sites are zoned *Business – Mixed Use Zone, Residential – Mixed Housing Urban Zone* and *Residential – Terrace Housing and Apartment Buildings Zone.*

A construction noise or vibration receiver (receiver), as referred to in this report, is any surrounding building that may be occupied during the proposed works. The site and surrounding receivers are illustrated in Figure 1 below.

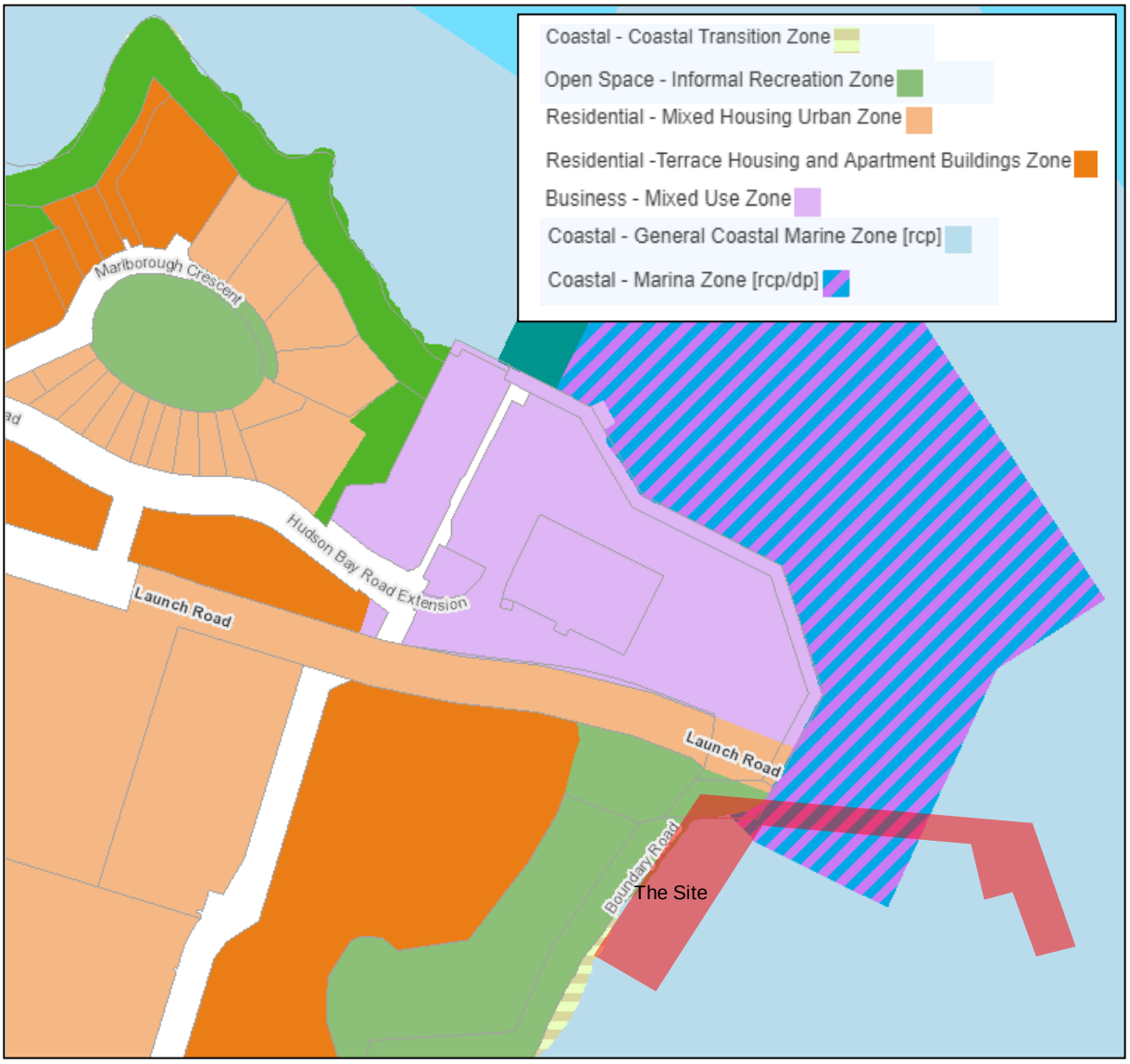


Figure 1: The Site and surrounding receivers

4.0 Construction methodology

The proposed construction of the jetty and pontoon will involve the installation of timber piles into the foreshore / seabed area. The construction methodology is outlined below:

- Demolition of existing concrete blocks and wall from jetty entrance
- Pre-drilling of pile holes, either from land based piling rig or drilling rig on barge
- Removal of spoil offsite using trucks
- Installation of timber piles (driven using impact hammer)
- Construction of the jetty and pontoon deck
- Pontoon will be constructed offsite and floated to the site to be secured to the pontoon guide piles
- Gangway will be constructed offsite and brought to site by barge. It will be lifted into position by a crane of the barge and secured to the jetty

The proposed construction of the recreation centre building and decked areas will involve the installation of concrete piles into the foreshore / seabed area. The construction methodology is outlined below:

- Installation of temporary H-beams piles and beams
- Installation of bored reinforced concrete piles. Pile holes will be bored and may required permanent or temporary steel casings to be installed to prevent collapse of the bored holes.
- Precast concrete beams lifted into position by crane (on land)
- Removal of temporary beams and piles
- Construction of building and deck

A site plan showing the location of the recreation centre, jetty and pontoon is shown in Figure 2 overleaf. The works for the construction of the marine sports recreation centre are expected to take over two years to complete.

Dredging work is not covered in this assessment as there is existing consent for this activity.

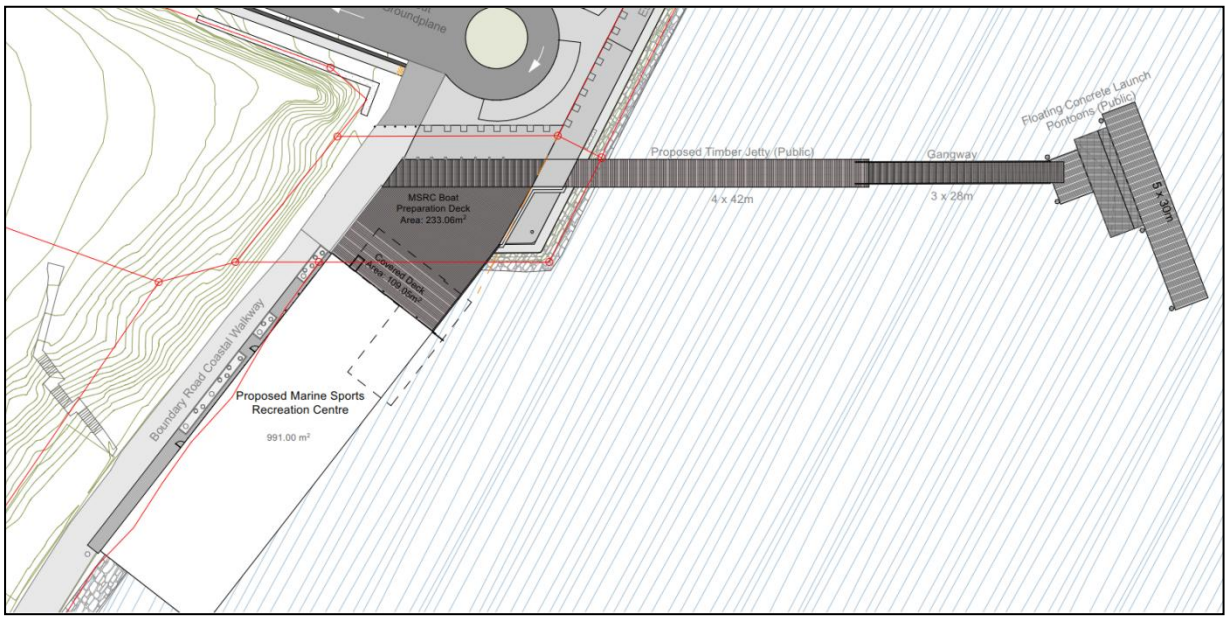


Figure 2: Site plan for marine sports recreation centre

5.0 Construction noise and vibration criteria for the proposed construction works

This section sets out the framework for the management of noise effects under the Auckland Unitary Plan and the Act, and the relevant construction noise and vibration standards.

5.1 Construction noise criteria

The AUP permitted limits for construction noise are set out in E25.6.27:

> E25.6.27. Construction noise levels in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone
>
> 1) Noise from construction activities in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone must not exceed the levels in Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone when measured 1m from the façade of any building that contains an activity sensitive to noise that is occupied during the works.

Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone

Time of week	Time Period	Maximum noise level (dBA)	
		L_{eq}	L_{max}
Weekdays	6:30am – 7:30am	60	75
	7:30am – 6:00pm	75	90
	6:00pm - 8:00pm	70	85
	8:00pm - 6:30am	45	75
Saturdays	6:30am – 7:30am	45	75
	7:30am – 6:00pm	75	90
	6:00pm - 8:00pm	45	75
	8:00pm - 6:30am	45	75
Sundays and public holidays	6:30am – 7:30am	45	75
	7:30am – 6:00pm	55	85
	6:00pm - 8:00pm	45	75
	8:00pm - 6:30am	45	75

2) Noise from construction activities in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone must not exceed the levels in Table E25.6.27.2 Construction noise levels for noise affecting any other activity when measured 1m from the façade of any other building that is occupied during the works.

Table E25.6.27.2 Construction noise levels for noise affecting any other activity

Time Period	Maximum noise levels L_{eq} (dBA)
7:30am – 6:00pm	70
6:00pm – 7:30am	75

3) For a project involving a total duration of construction work that is less than 15 calendar days, the noise levels in Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone and Table E25.6.27.2 Construction noise levels for noise affecting any other activity above may be increased by 5dB in all cases.

4) For a project involving a total duration of construction work that is more than 20 weeks the noise limits in Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone and Table E25.6.27.2 Construction noise levels for noise affecting any other activity above may be decreased by 5dB in all cases.

The AUP also states in Chapter E25 that any construction noise shall be measured and assessed in accordance with *NZS 6803: 1999 Acoustics – Construction Noise*.

The construction works will generally be undertaken between 07:30 and 18:00, Monday to Saturday and will take more than 20 weeks to complete. The relevant permitted construction noise limits are therefore 5 dB lower than those stated in Table E25.6.27.1 of the AUP.

The permitted noise limits for the earthworks can be summarised as 70 dB L_{Aeq} and 85 dB L_{Amax} between 07:30 and 18:00 at 1 m from the most exposed façade of any occupied dwelling. Where a building is known to be unoccupied during the works, the noise limits do not apply.

5.2 Construction vibration criteria

The AUP permitted limits for construction vibration are set out in E25.6.30 as follows:

E25.6.30. Vibration

1) Construction and demolition activities must be controlled to ensure any resulting vibration does not exceed:

   a. the limits set out in German Industrial Standard DIN 4150-3 (1999): Structural vibration – Part 3 Effects of vibration on structures when measured in accordance with that Standard on any structure not on the same site; and

   b. the limits in Table E25.6.30.1 Vibration limits in buildings in any axis when measured in the corner of the floor of the storey of interest for multi-storey buildings, or within 500mm of ground level at the foundation of a single storey building.

Table E25.6.30.1 Vibration limits in buildings

Receiver	Period	Peak Particle Velocity Limit millimetres/second
Occupied activity sensitive to noise	Night time 10pm to 7am	0.3 mm/s
	Daytime 7am to 10pm	2 mm/s
Other occupied buildings	At all times	2 mm/s

Works generating vibration for three days or less between the hours of 7am to 6pm may exceed the limits in Table E25.6.30.1 Vibration limits in buildings above, but must comply with a limit of 5mm/s peak particle velocity in any axis when measured in the corner of the floor of the storey of interest for multi-storey buildings, or within 500mm of ground level at the foundation of a single storey building, where:

i. all occupied buildings within 50m of the extent of the works generating vibration are advised in writing no less than three days prior to the vibration-generating works commencing; and

ii. the written advice must include details of the location of the works, the duration of the works, a phone number for complaints and the name of the site manager

E25.6.30.1 (a) of the AUP refers to the DIN Standard for permitted construction vibration limits to avoid building damage. This Standard uses a three-tiered classification system for buildings according to their susceptibility to vibration damage, as follows:

- Line 1: Buildings used for commercial purposes, industrial buildings and buildings of similar design;
- Line 2: Dwellings and buildings of similar design and/or occupancy; and
- Line 3: Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (e.g. listed buildings under preservation order).

Line 2 of the DIN criteria is typically applied to residential dwellings unless the receiving structure is particularly sensitive to vibration. A suitably qualified structural expert should be consulted where there are concerns about a building's susceptibility to vibration or where the appropriate assessment classification under DIN 4150–3:1999 requires confirmation.

The DIN Standard is specifically concerned with the structure of the building, not the effects on the people within the building. Assessment is in terms of a reduction in *serviceability* which includes minor cosmetic damage such as cracked plaster. The DIN Standard guideline values for short-term vibration are illustrated in the graph overleaf (Figure 3) for reference. The DIN Standard includes many other recommendations including more stringent values for long-term vibration (which may cause structural fatigue or produce resonance in the structure). The Standard must therefore be referred to in full when being applied.

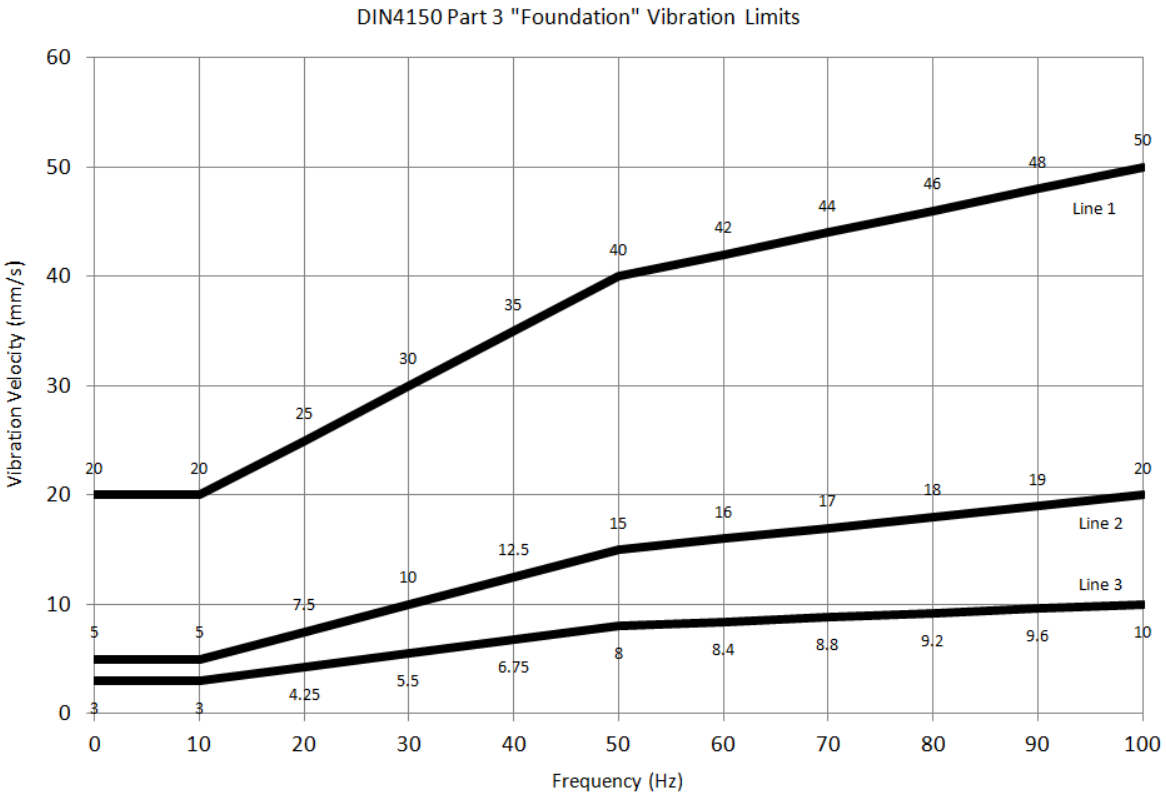


Figure 3: DIN 4150–3: 1999 guideline values for short-term vibration

5.3 Underwater construction noise criteria

The AUP sets out the following with respect to underwater noise:

F2.18.1. Background

Underwater noise can have an adverse effect on a range of marine animals that rely on sound to communicate, navigate, hunt and mate. Noise can cause threshold shifts in sensitivity to sound, and higher levels of sound can permanently damage or even kill some species.

Underwater noise has largely been overlooked in the past as a potential source of adverse effect to marine fauna, as well as to people working or undertaking recreational activities underwater. While limits on underwater noise generated by ships and vessels needs to be regulated at a national level, significant noise from certain underwater activities, such as blasting, impact and vibratory piling, marine seismic surveys, can be managed to address effects on marine fauna and people.

The Department of Conservation 2013 Code of Conduct for Minimising Acoustic Disturbance to Marine Mammals from Seismic Survey Operations focuses on controlling peak level noise effects and the Unitary Plan addresses the need to control noise levels.

F2.18.2. Objective [rcp]

(1) Underwater noise from identified activities is managed to maintain the health and well-being of marine fauna and users of the coastal environment.

F2.18.3. Policies [rcp]

(1) Require underwater blasting, impact and vibratory piling, and marine seismic surveys in the coastal marine area to adopt the best practicable option to manage noise so that it does not exceed a reasonable level.

(2) Assess the following matters for underwater blasting, impact and vibratory piling, and marine seismic surveys:

a. the health and well-being of marine fauna (including threatened and at-risk species) and people from the noise associated with the proposal;

b. the practicability of being able to control the noise effects;

c. the social and economic benefits to the community of the proposal; and

d. the extent to which the adverse effects of the noise will be mitigated.

(3) Enable the generation of underwater noise where that noise is associated with the following activities:

a. the operational requirements of vessels;

b. construction or operation of marine and port activities, marine and port facilities, marina activities, marine and port accessory structures and services, maritime passenger facilities and dredging, that do not involve underwater blasting, impact and vibratory piling, or marine seismic surveys; and

c. sonar not including marine seismic surveys.

The broad principle of the underwater noise assessment is to analyse the proposed activity to determine the extent and nature of underwater noise effects, taking into account the species that may be found in the area, the local physical environment and the level and character of noise that will be generate by the proposed activity.

5.4 Objectives and policies of the AUP

E25.2 *Objectives* of the AUP sets out the following regarding construction noise and vibration:

4) Construction activities that cannot meet noise and vibration standards are enabled while controlling duration, frequency and timing to manage adverse effects.

E25.3 *Policies* of the AUP sets out the following regarding construction noise and vibration:

10) Avoid remedy or mitigate the adverse effects of noise and vibration from construction, maintenance and demolition activities while having regard to:

a) The sensitivity of the receiving environment; and

b) The proposed duration and hours of the operation of the activity; and

c) The practicability of complying with permitted noise and vibration standards.

5.5 Resource Management Act

The overarching requirement for noise from the proposed activity is compliance with Section 16 (1) of the Act, which states:

> Every occupier of land (including any premises and any costal marine area), and every person carrying out an activity in, on, or under a water body or the costal marine area, shall adopt the best practicable option to ensure that the emission of noise from that land or water does not exceed a reasonable level.

The Act defines noise as “includes vibration”.

6.0 Reference noise levels and minimum separation distances

The reference sound power levels used in our calculations are displayed in Table 1 overleaf. These are derived from:

- Measurements undertaken by Styles Group on similar projects
- NZS 6803:1999 Appendix C *Guide to Sound Level Data on Site Equipment and Site Activities*
- The DEFRA *Noise Database for Prediction of Noise on Construction Sites and Open Sites*.

Our reference sound power levels are based on typical plant and operations. Good plant selection, regular maintenance, and experienced operators can further reduce noise emissions.

Table 1 also displays the minimum separation distance for each activity to comply with the noise limit of 70 dB L_{Aeq} from 07:30 to 18:00, based on the following assumptions. Where the 70 dB L_{Aeq} noise limit is complied with, the 85 dB L_{AFmax} noise limit will also be complied with.

- The minimum distance stated is that from the noise generating plant to the occupied building (taking into account that the assessment position is at 1 m from the most exposed façade)
- The calculation includes an adjustment of +3 dB for reflections from the façade, in accordance with NZS 6803:1999. The assumed ground type is a mix of hard and porous
- Unmitigated means there is a direct line of sight from the noise generating plant to the façade of the dwelling

Table 1: Reference noise levels and minimum compliance distances

Construction Activity	Reference sound power level	Minimum distance for compliance with 70 dB L_{Aeq}
Excavation with 30 t excavator	105 dB L_{WA}	30 m
Idling dump truck	92 dB L_{WA}	7 m
Bored piles	107 dB L_{WA}	38 m
Driven timber piles	110 dB L_{WA}	54 m
Crane	103 dB L_{WA}	24 m
Piling rig (driven steel casings)	115 dB L_{WA}	95 m
Concrete pump and truck discharging	103 dB L_{WA}	24 m

7.0 Construction noise modelling

This section sets out the methodology and results of our construction noise modelling.

7.1 Methodology

We have used Brüel & Kjær Predictor computer noise modelling software to calculate the noise emissions from the proposed earthworks. This software is globally recognised and has been used on many projects throughout New Zealand. The calculations are based on the Standards ISO 9613-1/2 and NZS 6803:1999. The noise level predictions assume meteorological conditions that slightly increase propagation in all directions.

Topographical contours, land parcels and building footprints for the noise model were obtained from the Auckland Council GIS service and by observation during our site visit. We have ensured the integrity of model by careful scrutiny of the final three-dimensional model.

The noise experienced outside any occupied dwelling between 07:30 and 18:00 may be from a number of construction activities taking place. We have modelled the following activities in the noise model as a separate point source and reported the maximum noise level from the one of these activities that generates the most noise:

i. Excavation of cut face with a 30 t excavator and an idling dump truck
ii. Bored piling
iii. Driven timber piling

iv. Driven steel casings (vibratory piling)

The calculation grid spacing for the noise level contours is 1 m x 1 m. The software interprets the noise level contours between these points. For the purpose of determining the noise level at any particular receiving building, and for the purpose of calibrating the model, we have used point receivers; these are independent of the contour grid and provide precise predictions.

Other input parameters for the noise model are displayed in Table 2.

Table 2: Brüel & Kjær Predictor input parameters

Calculation settings	Details
Calculation grid height	1.5 m
Meteorological parameters	Single value, C0 = 0
Ground attenuation	General method, ground factor 0.5 (mixture of hard and porous ground)
Air temperature	293.15 K
Atmospheric pressure	101.33 kPa
Air humidity	60 %
Receiver heights (relative)	Ground level: 1.5 m Upper level facade: 4.5 m

7.2 Results

The results of our noise modelling demonstrate that the works can comply with the permitted noise limits at all receivers, without the need for specific mitigation (such as screening).

The calculated construction noise levels at 1 m from the façade of the closest buildings are displayed in Table 3. These dwellings will be exposed to the highest levels of noise during the earthworks. We understand that the yacht club to the north of the site will be unoccupied by the time the works commence so we have not assessed the noise levels there.

The noise levels outside all other dwellings will be lower (and therefore compliant by a greater margin).

Table 3: Calculated construction noise levels

Address	Receiver height	Highest predicted noise level (L_{Aeq})
The Hangar	1.5 m	56 dB

Address	Receiver height	Highest predicted noise level (L_{Aeq})
	4.5 m	60 dB
23 Launch Road - Yachting Developments	1.5 m	39 dB
	4.5 m	40 dB

Appendix B illustrates the noise level contours from the activity that will generate the highest noise levels. Due to the topography in the area (land drops off quite steeply from Launch Road down towards the water) the activity that will be most exposed and will generate the highest levels of noise will be the driven timber piles. This will be when they are driven for the jetty when they are furthest north and not screened by the topography.

The piles and casings for the foundations of the recreation centre will be screened by the topography and will generate lower noise levels.

8.0 Construction vibration

Typically, vibration levels as low as 0.3 mm/s are perceptible within dwellings and levels of 1 mm/s during the daytime can cause complaints if the vibration is unexpected. Any vibration from the site would only be perceptible during the daytime hours on Monday to Saturday because there will be no works during the night time, on Sundays or on public holidays.

Construction vibration levels are largely dependent on the equipment used, the skill of the operator, the subsoil conditions and the response of the receiving structure. Accurate predictions are not always possible without site, receiver and plant specific data. Examples of similar activities measured by Styles Group at other sites are provided in Table 4 for reference. It must be noted that these are indicative only because variations in the abovementioned factors can make an appreciable difference to the velocity and frequency of the vibration measured.

Table 4: Examples of vibration from construction activities

Plant	Activity	Measurement position	Peak particle velocity (PPV)
20 t Excavator	Excavating soil on residential site	Geophone buried in ground at 3 m	2.5 mm/s
30 t Excavator	Shaking soil from bucket	Geophone buried in ground at 25 m	1.3 mm/s
Truck and trailer	Laden truck and trailer manoeuvring on site	Geophone buried in ground at 22 m	1.7 mm/s

Plant	Activity	Measurement position	Peak particle velocity (PPV)
Driven piling	Vibratory pile driving into alluvial soils	Geophone buried in ground at 40m	1.9mm/s

The proposed earthworks will readily comply at all times with the AUP permitted construction vibration limits for human amenity and to avoid building damage, as set out in E25.6.30. This is based on:

- The nature of the vibration generating works
- The distances to the nearest buildings (over 90 m)
- Our experience and measurement data from similar projects

9.0 Underwater noise

In an otherwise featureless environment visually, sound underwater provides marine mammals, fish and invertebrates the only sensory cue that is omnidirectional and far-reaching. As a result, marine mammals, fish and invertebrates have evolved incredible capabilities for detecting, perceiving and using underwater sound. Marine life depend on their ability to listen to biologically-important sounds for communication, predator and prey detection, navigation, coordinating movements, mediating reproductive behaviours, and in mate selection. Their ability to communicate and sense their environment using sound is therefore directly linked to their ambient sound environment – the listener must simply be able to detect. Not being able to do so can lead to increased levels of stress, reduced foraging efficiency or predator avoidance. If close enough to the source, physical injury through temporary or permanent hearing loss can result – an outcome similar to terrestrial animals losing their eye sight.

Underwater noise from anthropogenic activities is a growing concern globally, with coastal activities (pile driving, dredging, shipping, drilling, etc) driving up background noise levels over a wide frequency range – to the point where biologically-important signals for marine mammals and fish can be masked.

Notwithstanding the well-recognised effects of underwater noise on marine mammals, those effects can only occur when marine mammals are exposed to high levels of underwater noise. Therefore, the concern for underwater noise effects is greatest in areas within marine mammal habitats, or nearby enough that the noise from any given development (near or offshore) can propagate into areas where marine mammals are known to be. The Hauraki Gulf boasts high marine mammal diversity and abundance, and therefore any proposal within, or near, the Gulf should consider underwater noise as it has the potential to negatively impact the Gulf's marine mammals. In areas where very few marine mammal sightings have

been documented, such as the inner Waitemata Harbour west of the Harbour Bridge, the concern for underwater noise effects on marine mammals diminishes, however there must still be confidence that the noise does not propagate into an area with marine mammals (i.e. the inner Hauraki Gulf).

9.1 Assessment Methodology

To determine the effects radius of both the vibratory and percussive piling of the 750-800mm steel casings and 300mm timber piles, respectively, underwater noise propagation modelling was undertaken. The propagation loss was simply defined as:

$$SPL_{freq}(R) = SL_{freq} - PL_{freq}(R)$$

where SPL_{freq} at distance (R) is the predicted sound pressure level for some frequency bandwidth, SL_{freq} is the source level at that frequency and PL_{freq} is the propagation loss over distance R for that frequency. The propagation loss (PL) was determined using a combination of a range dependent parabolic equation (PE) and ray trace (RT) model in dBSea, for frequencies below and above 2 kHz, respectively, for 360 radials over a 10m grid with 0.2m depth resolution. Since the ray trace model is based on Snell's Law, it is applicable if a signal's wavelength is much less than the layer for which it is propagating. Therefore, a frequency cutoff at the third octave band centered at 2 kHz was selected to ensure that the wavelength of the signal was appropriate for the width of the propagation medium in this case (which was based entirely on the bathymetry given the shallow depths and reasonable mixing of the water column).

The bathymetry data for the modelling within the project area was obtained by the National Institute of Water and Atmosphere using multibeam and single beam sounding lines spaced 50-120m apart (although 20m resolution in the project area was available)[1]. The bathymetry dataset from NIWA also compared with the bathymetry data obtained by Tonkin & Taylor[2], to ensure accuracy, but the area of the T&T data was limited to the immediate area rather than extending into the Waitemata.

The sound speed profile was simply assumed to be consistent from the sea surface to sea floor, based on the shallow depths and CTD casts from near Point Chevalier[3] during the ebb tide.

The underwater noise modelling was performed for three frequencies within each third octave or full octave band between 50 Hz and 36 kHz, and averaged within each bandwidth to represent the PL for a specific band. Third octave bands were chosen for modeling effects on marine mammals, as they are used to represent the critical bandwidths of marine

[1] NIWA (National Institute of Water and Atmospheric Research). 2016. New Zealand Bathymetry. www.niwa.co.nz/our-science/oceans/bathymetry, accessed on 24 August 2016.

[2] Tonkin & Taylor. 2019. Marine Recreation Centre: Resource Consent Engineering Design Report. Job No. 1006452.v.1.0. June 2019.

[3] Pine unpublished data, obtained using a StarOddi DST-CT logger during 2011.

mammals. Full octave bands were chosen for modelling effects on fish, as full octave bands better represent the critical hearing bands of fish.

Source levels, in 1/3 octave and 1/1 octave bands between centre frequencies 63 Hz and 32 kHz, for the vibratory and percussive piling were obtained from previous measurements undertaken by Styles Group (Figure 4). It is important to note that the conditions under which the vibratory and percussive piling was measured differed to those in this project. For the vibratory piling, the *SL*s used were from vibratory piling of 850mm steel casings into sand with gravel and broken shells in approximately 5m of water.

For the percussive piling, the *SL*s used were from driving 500mm timber piles into sand, after being positioned with vibratory methods. Therefore, the source levels used are likely to be higher than those expected for the current project at Hobsonville Point. While the differing sizes are a key difference, the main difference is the water depths and sediment type. Low frequencies will not propagate as well in water depths less than 2 wavelengths of the signal, and therefore the low frequency component of the waterborne piling noise will be dampened. The noise levels used in this assessment are therefore conservative. The poor propagation of lower frequencies was considered in the propagation loss modelling, so to increase the level of conservativeness, the modeling was undertaken during high tide (3.2m tide level[4]), so to assess any potential low frequency propagating beyond the project area during a high tide.

9.2 Noise effects modeling

The overall aim of the acoustic modeling is to provide the acoustic footprint of the proposed works in order to inform an assessment of the potential impacts on marine fauna (marine mammals and fish, in this case). The type of potential effects, and severity, depends on the distance between the source and receiver, with injury (permanent threshold shifts, PTS) potentially occurring close to the source, followed by temporary threshold shift (TTS), behavioural responses and auditory masking. Auditory masking is arguably one of the most pervasive impacts of underwater noise due to the potential range over which it can occur for both marine mammals and fish. Furthermore, since behavioural effects generally occur at higher levels of masking, understanding the spatial limits of masking is important[5]. It's inclusion in underwater noise assessments is therefore becoming more mainstream internationally, and to maintain best practice, we have also quantified masking effects. In addition, we have also quantified the audibility contour, within which a marine mammal would be able to hear the sound.

Given the location of the proposed works is in an area with very few marine mammal sightings, we have generalised the limits of audibility across all marine mammals and fish

[4] Tide level taken from the Tonkin & Taylor Engineering Design Report, Job No. 1006452.v.1.0. June 2019.

[5] Pine MK., Schmitt P., Culloch RM., Lieber L., Kregting LT. 2019. Providing ecological context to anthropogenic subsea noise: Assessing listening space reductions of marine mammals from tidal energy devices. Renewable and Sustainable Energy Reviews 103:49-57.

listed in the marine ecology report[6]. The limits of audibility are based on the hearing sensitivities of killer whales, common dolphins, bottlenose dolphins and pinnipeds, as well as the averaged thresholds of a number of fishes with swim bladders (based on the assumption that audibility is related to the difference between the ambient sound level, the anthropogenic noise level and the hearing threshold at each critical bandwidth up to 48 kHz).

Given the expected source levels and location of the piling, the key effects are TTS, auditory masking and behavioural effects. Behavioural effects have not been specifically assessed in this case due to the location of the proposed works – instead, the area within which the onset of behavioural effects may occur can be defined inside the auditory masking zones. The extent of auditory masking from the piling was assessed by calculating the listening space reduction (*LSR*), as a percentage, for common dolphins. Common dolphins were chosen as they are the species seen (albeit very rarely) to venture as far as Hobsonville Point. The algorithm and equations used to calculate the *LSR* followed that of Pine et al. 2018[7] and Pine et al 2019[5], who define the *LSR* as

$$LSR = 100\left(1 - 10^{-2\frac{\Delta}{N}}\right)$$

where *N* is the frequency-specific *PL* slope coefficient and Δ is the difference between the perceived base ambient noise level NL_1 and piling noise level NL_2 at a given distance (NL_2 was the modelled sound pressure levels described in Section 9.1).

The ambient noise level used was the median level measured off Point Chevalier (36° 51.05' S, 174° 41.49' E) using a bottom-mounted calibrated HTI-96-MIN hydrophone connected to a watertight temporal recording unit at 3m water depth during MLWS (similar to the depths around the proposed works)[8]. Since NL1 is the perceived based ambient noise level, it is the maximum of the receiver's hearing threshold (audiogram value) and the ambient level inside a critical bandwidth[9]. For this project, the critical bandwidths were approximated by 1/3 octave bands for marine mammals[9] and a 1/1 octave band for fish[10].

Audiogram values for bottlenose dolphins and common dolphins were used to estimate hearing thresholds in each critical band. There are no audiograms available for the fish species listed and so fish audiograms were based on the average of several species with swim bladders[11].

---

[6] Tonkin & Taylor. 2019. Marine Ecology Report - Marine Recreation Centre

[7] Pine MK., Hannay DE., Insley SJ,, Halliday WD., Juanes F. 2018. Assessing vessel slowdown for reducing auditory masking for marine mammals and fish of the western Canadian Arctic. Marine Pollution Bulletin 135:290-302.

[8] Pine MK. 2013. Underwater Anthropogenic Sound: Understanding the potential impacts on the marine environment and the influence on crab larval behaviour. Ph.D. Thesis, The University of Auckland.

[9] Erbe C, Reichmuth C, Cunningham K., Lucke K., Dooling R. 2016. Communication masking in marine mammals: a review and research strategy. Marine Pollution Bulletin 103:15-38.

[10] Stanley JA., Van Parijs SM., Hatch LT. 2017. Underwater sound from vessel traffic reduces the effective communication range in Atlantic cod and haddock. Scientific Reports 7:1–12.

[11] From Nedwell JR., Edwards B., Tumpenny AWH., Gordon J. 2004. Fish and Marine Mammal Audiograms: a Summary of Available Information, Southampton.

The value for *N* was calculated by curve-fitting the modelled *PL* from the listeners location over a distance that represented the listener's maximum listening range under natural sound levels, and was defined using the sonar equation without signal gain:

$$SE = SL - PL - NL_1 - DT$$

where signal excess (*SE*) is set to zero to indicate detection onset, NL_1 was the 5th percentile ambient noise level and *DT* was the detection threshold (conservatively set at 10 dB for common dolphins[5,7,12] and 15 dB for fish[7,10]. This was done because the *PL* slope can have some range dependence. The piling noise source spectra, ambient sound levels and audiogram values used are provided in Figure 4.

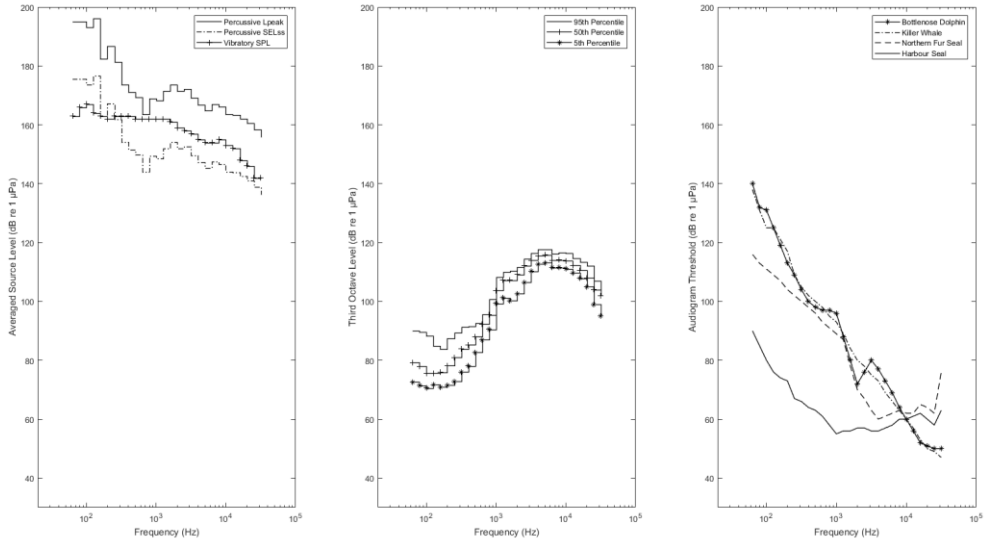


Figure 4: Third octave band source levels (dB re 1 µPa @ 1m) of the vibratory and percussive piling of steel casings and timber piles, respectively, measured ambient sound levels (dB re 1 µPa) and audiogram values (dB re 1 µPa) for marine mammals.

The *LSR* was then calculated for each centre frequency at each depth step – resulting in a *LSR* map for each frequency band. Those maps were then overlaid on top of each other (forming a 3D matrix) and averaged across layers to provide an overall 2D *LSR* map for the project area[7].

In order to ascertain the ranges within which TTS and PTS effects may occur, the modelled sound pressure levels were M-weighted[13]. Killer whales, bottlenose dolphins and common dolphins can be classified as Mid-Frequency cetaceans, while leopard seals are Phocid pinnipeds and fur seals are Otarrids. The M-weightings used were therefore mid-frequency (MF), phocid pinnipeds (PP) and otarrid pinnipeds (OP). No weighting functions were applied for fish.

[12] Clark CW, Ellison WT, Southall BL, et al. 2009. Acoustic masking in marine ecosystems: intuitions, analysis, and implication. Marine Ecology Progress Series 395: 201e222.

[13] See **Southall et al. (2007**) (Marine mammal noise exposure criteria: Initial scientific recommendations. Aquatic Mammals 33(4)) for more information about M-weighting and **NOAA (2018**) for the hearing curves used.

The criteria for the onset of PTS and TTS are provided in Table 5 below, while the onset of PTS/TTS in fish are provided inTable 6**.**

Table AE-1. Summary of weighting function parameters and TTS/PTS thresholds. SEL thresholds are in dB re 1 µPa²s and peak SPL thresholds are in dB re 1 µPa.

$W(f) = C + 10\log_{10}\left\{\frac{(f/f_1)^{2a}}{\left[1+(f/f_1)^2\right]^a\left[1+(f/f_2)^2\right]^b}\right\}$						Non-impulsive		Impulse			
						TTS threshold	PTS threshold	TTS threshold		PTS threshold	
Group	*a*	*b*	f_1 (kHz)	f_2 (kHz)	*C* (dB)	SEL (weighted)	SEL (weighted)	SEL (weighted)	peak SPL (unweighted)	SEL (weighted)	peak SPL (unweighted)
LF	1	2	0.20	19	0.13	179	199	168	213	183	219
MF	1.6	2	8.8	110	1.20	178	198	170	224	185	230
HF	1.8	2	12	140	1.36	153	173	140	196	155	202
SI	1.8	2	4.3	25	2.62	186	206	175	220	190	226
OW	2	2	0.94	25	0.64	199	219	188	226	203	232
PW	1	2	1.9	30	0.75	181	201	170	212	185	218

Table 5: Dose criteria for the onset of PTS and TTS for each of the hearing functional groups (taken directly from NMFS (2018))

Table 7.3 Pile driving. Data on mortality and recoverable injury are from Halvorsen et al. (2011, 2012a, c) based on 960 sound events at 1.2 s intervals. TTS based on Popper et al. (2005). See text for details. Note that the same peak levels are used both for mortality and recoverable injury since the same SEL_{ss} was used throughout the pile driving studies. Thus, the same peak level was derived (Halvorsen et al. 2011).

Type of Animal	Mortality and potential mortal injury	Impairment			Behavior
		Recoverable injury	TTS	Masking	
Fish: no swim bladder (particle motion detection)	>219 dB SEL_{cum} or >213 dB peak	>216 dB SEL_{cum} or >213 dB peak	>>186 dB SEL_{cum}	(N) Moderate (I) Low (F) Low	(N) High (I) Moderate (F) Low
Fish: swim bladder is not involved in hearing (particle motion detection)	210 dB SEL_{cum} or >207 dB peak	203 dB SEL_{cum} or >207 dB peak	>186 dB SEL_{cum}	(N) Moderate (I) Low (F) Low	(N) High (I) Moderate (F) Low
Fish: swim bladder involved in hearing (primarily pressure detection)	207 dB SEL_{cum} or >207 dB peak	203 dB SEL_{cum} or >207 dB peak	186 dB SEL_{cum}	(N) High (I) High (F) Moderate	(N) High (I) High (F) Moderate
Sea turtles	210 dB SEL_{cum} or >207 dB peak	(N) High (I) Low (F) Low	(N) High (I) Low (F) Low	(N) High (I) Moderate (F) Low	(N) High (I) Moderate (F) Low
Eggs and larvae	>210 dB SEL_{cum} or >207 dB peak	(N) Moderate (I) Low (F) Low	(N)Moderate (I) Low (F) Low	(N) Moderate (I) Low (F) Low	(N) Moderate (I) Low (F) Low

Notes: peak and rms sound pressure levels dB re 1 µPa; SEL dB re 1 $\mu Pa^2 \cdot s$. All criteria are presented as sound pressure even for fish without swim bladders since no data for particle motion exist. Relative risk (high, moderate, low) is given for animals at three distances from the source defined in relative terms as near (N), intermediate (I), and far (F).

Table 6: Dose criteria for the onset of noise effects for fish (taken directly from ASA S3/SC1.4 TR-2014)

For marine mammals, the NOAA PTS/TTS criteria for marine mammals, and the ANSI criteria for fish are a combination of 24-hour cumulative sound exposure levels (SEL_{cum}) and peak (L_{peak}) sound pressure levels. The SEL_{cum} metric is the cumulative sound energy over a complete 24 hour period, measured as received total sound energy over that 24 hour period. The L_{peak} is the instantaneous peak sound pressure measured at any time during the day.

The SEL_{cum} was therefore calculated using the number of hammer blows required to drive in a single pile, multiplied by the number of piles driven per day. The blow count per pile, or expected blow counts per day, is not known so was estimated based on our experience of other projects within the Auckland Region.

It is understood a total of 22 timber piles are to be driven, with a total blow count per day of 300. A duration of 60mins for the vibratory piling has been assumed, and expected to be longer than required based on the fact bore holes will be drilled first.

9.3 Underwater noise effects

All figures for the underwater noise modelling are provided in **Appendix B**.

9.3.1 Percussive Piling

- The critical distances for PTS (referred to as the PTS zone) for marine mammals and fish are not applicable - the sound levels are too low and do not exceed the criteria.
- The critical distance for TTS is approximately between 21m and 31m for Phocid pinnipeds (leopard seal).
- TTS effects are within 1m for fish.
- No TTS effects are expected for MF-cetaceans (killer whales, bottlenose dolphins and common dolphins), and Otariid pinnipeds (fur seals) in this case.
- Auditory masking effects may occur within a maximum range of 774 m for common dolphins and 517m for fish.
- The 50% *LSR* contour is at approximately 159m for common dolphins, and 382m for fish.
- The limit of audibility for marine mammals is at a maximum of 1092m, and 456m for fish. Noise-related effects are therefore not possible inside the greater Waitemata Harbour area (east of the Harbour Bridge) where marine mammals are more occasionally seen (albeit, still very rarely).

9.3.2 Vibratory piling

- PTS effects are not expected for marine mammals or fish in this case – the sound levels are too low and do not exceed the criteria.
- TTS effects may occur for MF-cetaceans (killer whales, bottlenose dolphins and common dolphins) between 10m and 14m. For phocid pinnipeds (leopard seals), TTS effects may occur between 43m and 80m. For phocid pinnipeds, however, the TTS radius decreases to between 32m and 63m if the vibratory piling duration halves from 60min to 30min.
- TTS effects may occur between 29m and 63m for fish. This decreases to 21m and 53m if the vibratory piling decreases to 30min from 60min.
- No TTS effects are expected for otariids (fur seals).
- Auditory masking effects may occur within a maximum range of 1177 m for common dolphins and 488m for fish.

- The 50% *LSR* contour is at approximately 310 m for common dolphins, and 308m for fish.
- The limit of audibility for marine mammals is at a maximum of 1750m, and 477m for fish.

The underwater noise effects can be appropriately managed by ensuring that piling is not carried out if any marine mammal approaches or enters the areas where TTS effects might occur. For simplicity and ease of monitoring, the largest of the TTS areas should be used for monitoring, (rather than having a different distance to monitor for each species). The worst-case for TTS effects is up to 80m for phocid pinnipeds if vibratory piling is consistent for up to 60 minutes. We recommend that this distance is adopted for all visual monitoring, as it is conservative for all other species and piling methods, and is a relatively short and readily observable distance.

If piling is not undertaken when any marine mammal is within 80m of the pile being driven, there will be no TTS or PTS effects on marine mammals. There may still be a range of minor behavioural effects that arise if marine mammals are present at greater distances, (out to approximately 1km) but these are considered to be less than minor.

We consider that if the management requirements recommended below are adopted, the effects on marine fauna will be managed as required by objective F2.18.2 and the policies in F2.18.3 of the AUP.

9.4 Underwater noise management recommendations

Despite the fact that the probability of any adverse noise effects arising on marine mammals and fish is generally very low, we recommend that the following mitigation measures are adopted:

- The contractor shall check the area of the harbour readily visible from the piling location for marine mammals 30min prior to start up. If any marine mammals are sighted, piling must not commence until they have left the area.
- During all piling work, the area of harbour enclosed by a radius of 80m from the pile being driven shall be observed for the presence of any marine mammals.
- If any marine mammals approach or enter this zone, the piling work shall cease until the mammal(s) have left the area.

10.0 Construction noise and vibration effects

It is our opinion that the noise from the construction of the marine sports recreation centre (including underwater noise effects) will not exceed a reasonable level in terms of section 16 of the Act. This includes the following considerations:

- The ability of the works to comply with the permitted construction noise limits at all times
- The ability of the works to comply with the permitted construction vibration limits at all times
- The limited exposure times and duration of the noise that will be experienced at the potentially affected sites
- That the AUP objectives and policies for construction noise and vibration set out in E25.2 *Objectives* and E25.3 *Policies* will be met.
- That the AUP objectives and policies for underwater noise effects set out in F2.18.2 *Objectives* and F2.18.3 *Policies* will be met.

The proposed construction works will meet the permitted construction noise limits without the requirement for acoustic screening. This is due to the large separation distance between the closest works and any occupied buildings (over 90 m).

The permitted construction vibration limits for human amenity and building damage will be complied with at all times due to the separation distances between the plant on site and the nearest buildings.

The potential effects on marine mammals will be avoided by ensuring that that the piling works do not occur whilst any marine mammal is within the largest area (by species) where TTS effects may occur. Any behavioural effects beyond the TTS zones will be less than minor.

11.0 Conclusion

Styles Group has assessed the noise and vibration effects from the construction of a marine sports recreation centre at Catalina Bay, Hobsonville Point.

Our assessment of the proposal has determined that the permitted construction noise and vibration limits of the AUP will be complied with at all times.

It is our opinion that the noise from the proposed construction works will not exceed a reasonable level in terms of section 16 of the Act. This includes the following considerations:

- The ability of the works to comply with the permitted construction noise limits at all times
- The ability of the works to comply with the permitted construction vibration limits at all times
- The limited exposure times and duration of the noise that will be experienced at the potentially affected sites
- That the AUP objectives and policies for construction noise and vibration set out in E25.2 *Objectives* and E25.3 *Policies* will be met.

- That the AUP objectives and policies for underwater noise effects set out in F2.18.2 *Objectives* and F2.18.3 *Policies* will be met.

12.0 Recommended Conditions

Given that the construction noise and vibration levels for receivers on land will comply with the permitted activity criteria in most cases by a considerable margin, we see no reason to recommend conditions requiring any specific mitigation. The relevant construction noise and vibration limits set out in Chapter E25 will prevail in the absence of any specific consent conditions.

However, we recommend that our suggested mitigation measures for the management of the potential underwater noise effects on marine mammals are attached to the consent as conditions. The following wording is appropriate:

i. The consent holder shall ensure that the area of the harbour readily visible from the piling location is visually observed for marine mammal presence for no less than 30min prior to the commencement of piling each day. If any marine mammals are sighted, piling may not commence until they have left the area.

ii. The consent holder shall ensure that during all piling work, the area of harbour enclosed by a radius of 80m from the pile being driven (the exclusion zone) shall be observed for the presence of any marine mammals.

iii. If any marine mammals approach or enter the exclusion zone, all piling work shall cease until the mammal(s) have left the area.

Appendix A Glossary of terms

Noise	A sound which serves little or no purpose for the exposed persons and is commonly described as 'unwanted sound'. The definition of noise includes vibration under the Resource Management Act 1991.
Best practicable option	Defined in section 2 of the Resource Management Act 1991 as: in relation to a discharge of a contaminant or an emission of noise, means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to— a. the nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and b. the financial implications, and the effects on the environment, of that option when compared with other options; and c. the current state of technical knowledge and the likelihood that the option can be successfully applied.
$L_{Aeq(t)}$ (dB)	The A-weighted equivalent sound pressure level with the same energy content as the measured varying acoustic signal over a sample period (t). The preferred metric for sound levels that vary over time because it takes into account the total sound energy over the time period of interest.
LAFmax (dB)	The maximum A-weighted sound pressure level recorded during the measurement period using a fast time-weighting response.
LWA (dB)	Sound power level (LWA) is the acoustical energy emitted by a sound source. It is an absolute value and is not affected by distance or the environment. The LWA is used in computer noise modelling to calculate the sound pressure level (e.g. LAeq) at a given distance.
NZS 6801:2008	N.Z. Standard NZS 6801:2008 Acoustics – Measurement of environmental sound.
NZS 6802:2008	N.Z. Standard NZS 6802:2008 Acoustics – Environmental noise.
NZS 6803:1999	N.Z. Standard NZS 6803:1999 Acoustics – Construction noise.
DIN 4150–3:1999	German Standard DIN 4150-3:1999 Structural Vibration – Part 3: Effects of vibration on structures. Typically adopted for the assessment of structure borne vibration in New Zealand.
PPV	Peak particle velocity, measured in mm/s. The standard metric for the measurement of ground borne vibration in New Zealand. The instantaneous maximum velocity reached by a vibrating element as it oscillates about its rest position.
CNVMP	Construction noise and vibration management plan. A document to help the contractor manage noise and vibration emissions during construction works.

Appendix B Underwater Noise Modelling Results

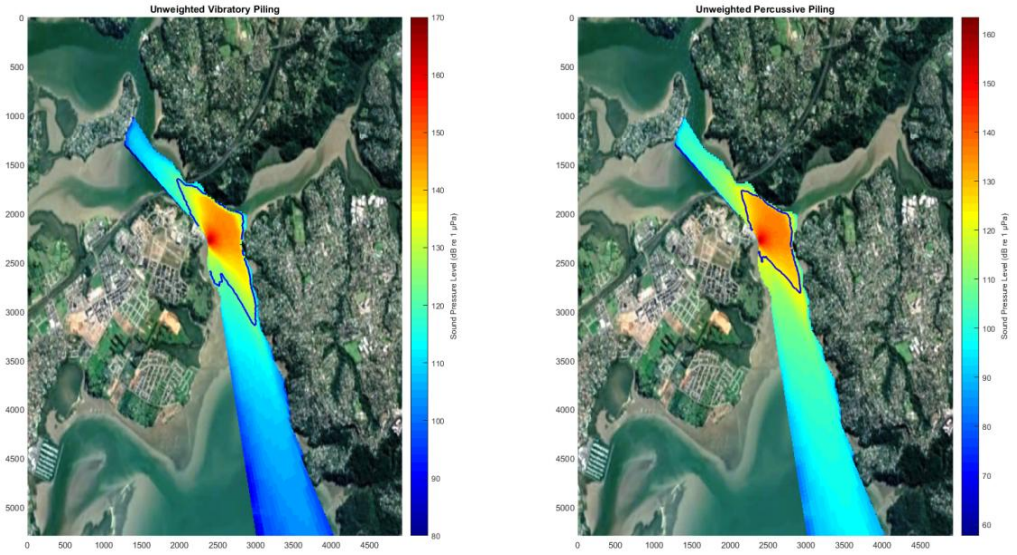


Figure B.1: Broadband noise levels (between 1/3 octave centre frequencies 63 Hz and 32 kHz), for the vibratory piling (as 1-min RMS levels) and percussive piling (as single strike SELs). The blue contour represents the median ambient noise level.

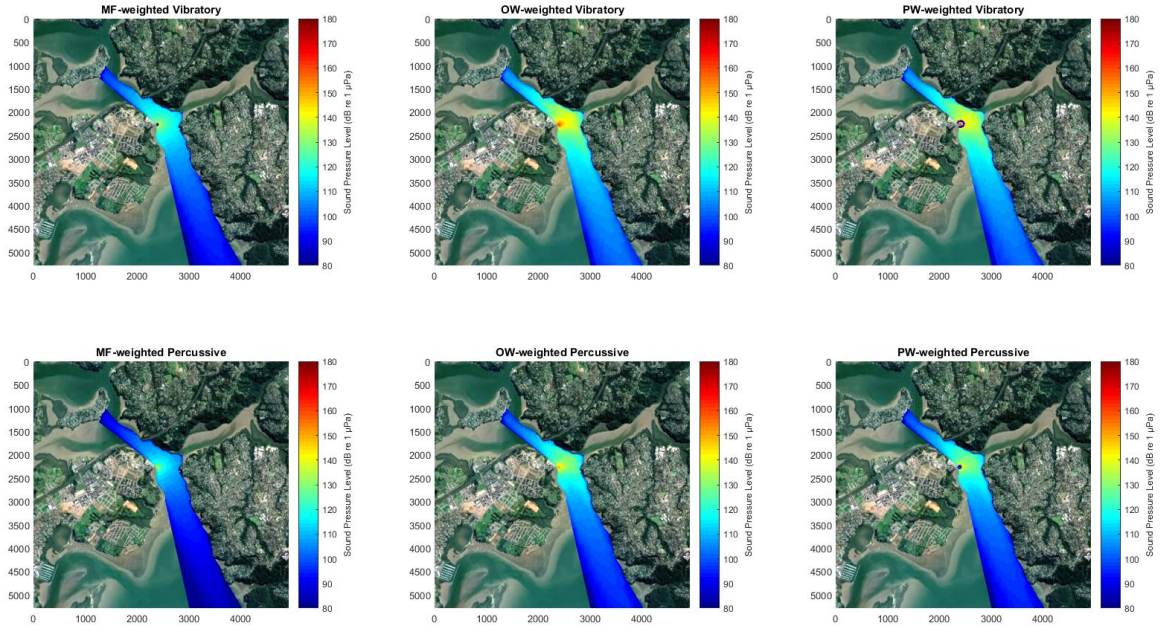


Figure B.2: M-weighted noise levels for the vibratory and percussive piling for mid-frequency (MF), phocid pinnipeds (PW) and otariid pinnipeds (OW). The blue contours (seen in MF-weighted vibratory, PW-weighted vibratory and PW-weighted Percussive plots) represent the TTS contours, based on 300 strikes per day (percussive piling) or 60min vibratory piling duration.

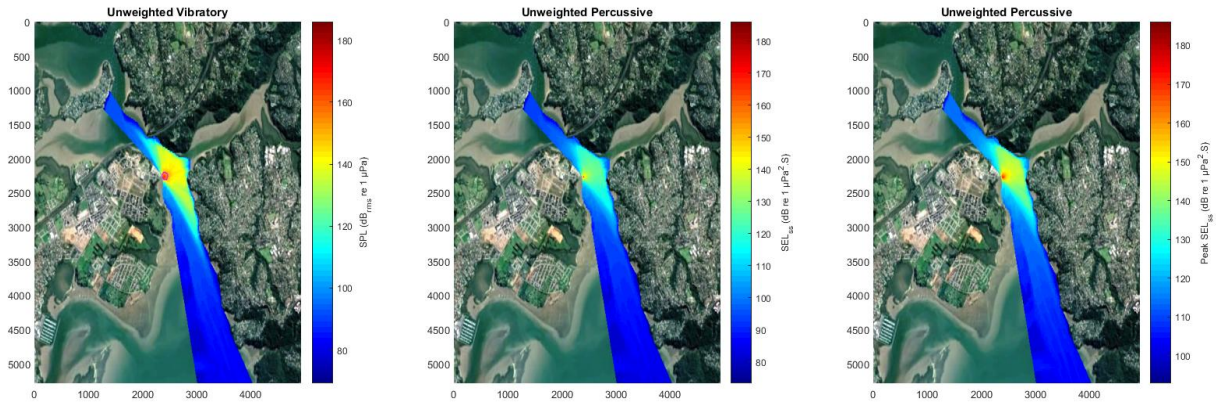


Figure B.3: Plots show the unweighted noise levels between 63 and 1000 Hz, and TTS effects contours (red line) for fish.

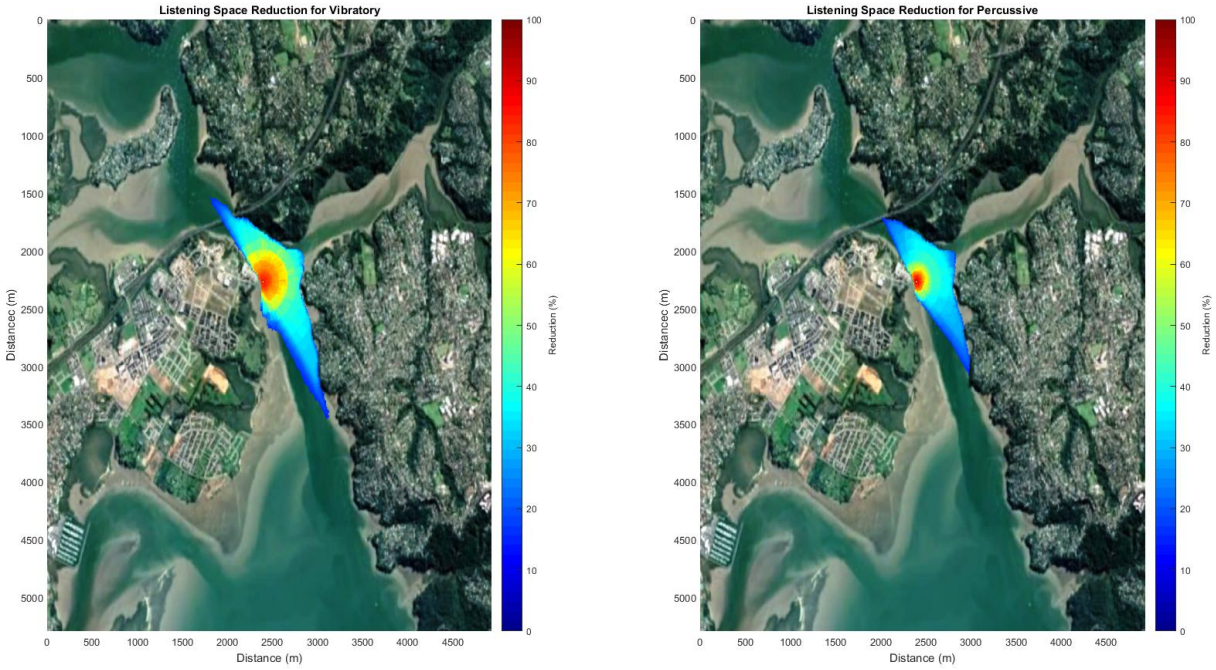


Figure B.4: Plot showing the spatial extent of listening space reductions for common dolphins during the vibratory (left panel) and percussive (right panel) piling.

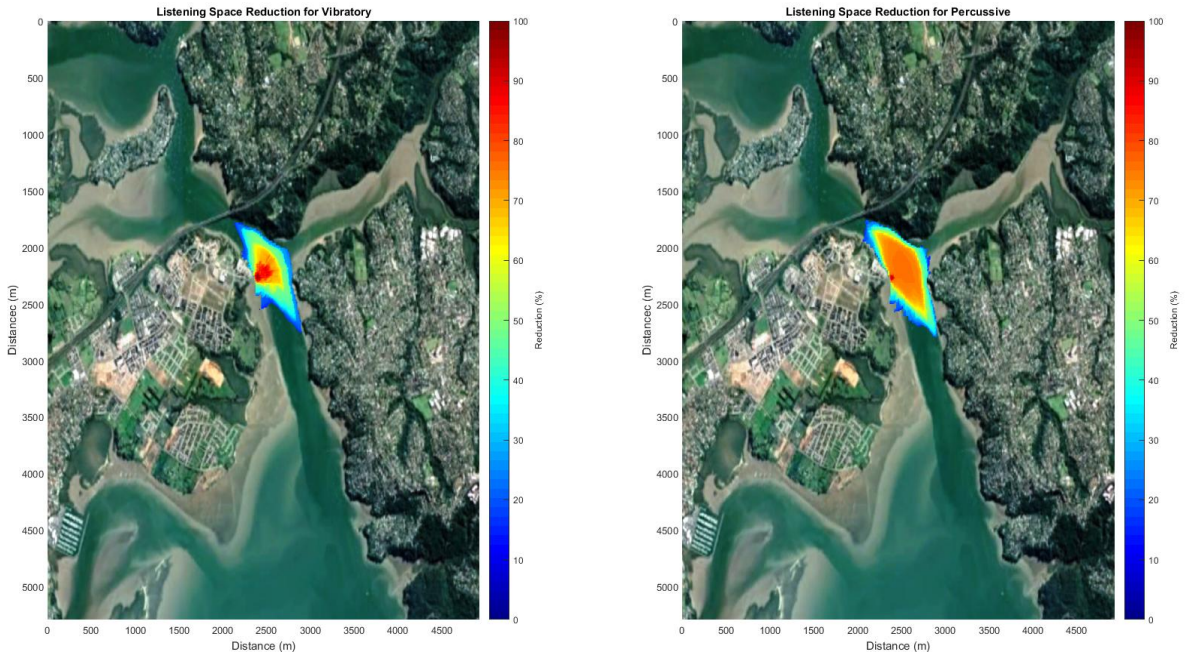


Figure B.5: Plot showing the spatial extent of listening space reductions for fish during the vibratory (left panel) and percussive (right panel) piling.

Figure B.6: Plot showing the limits of audibility for common dolphins during the vibratory (left panel) and percussive (right panel) piling.

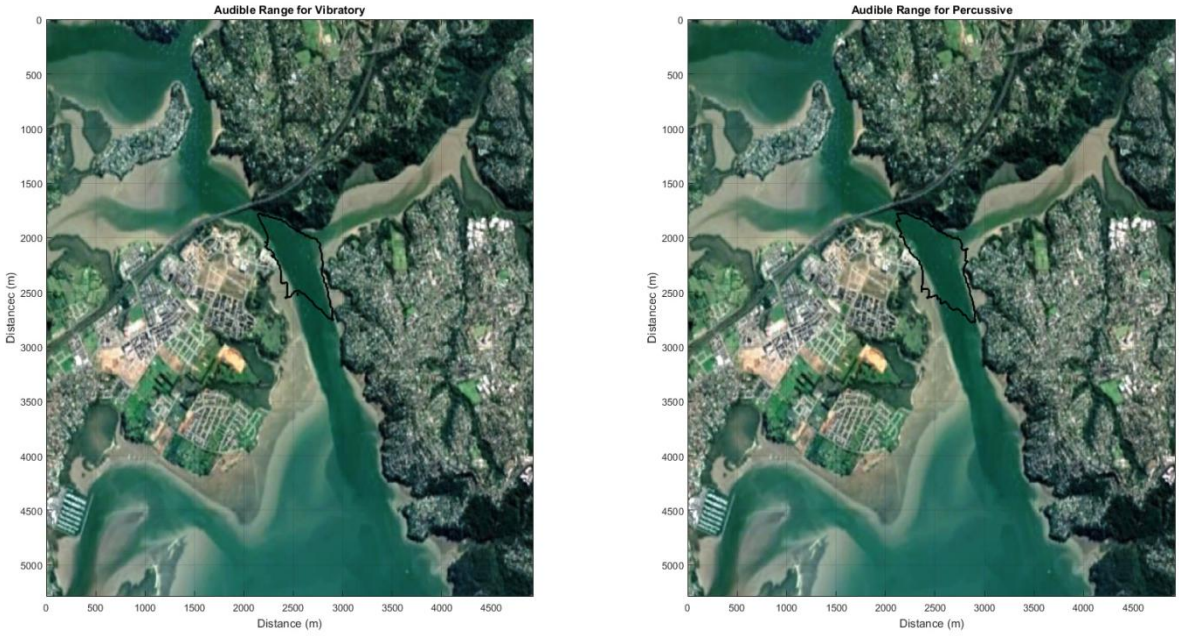


Figure B.7: Plot showing the limits of audibility for fish during the vibratory (left panel) and percussive (right) piling.

APPENDIX 17
ARCHAEOLOGICAL REPORT

Archaeological Survey and Assessment of Effects:

Hobsonville Point - marine recreation centre

Prepared for:

HLC (2017) Limited
PO Box 84143
Westgate
Auckland 0657

Prepared by:

Archaeology Solutions Ltd
PO Box 48134
Blockhouse Bay
AUCKLAND 0644
phone: (09) 626 7860
e-mail: info@archaeologysolutions.co.nz

Date: October 2019

Important Notice

*The information contained in this report (**Report**) produced by Archaeology Solutions Limited (**we, us**) is confidential to, and solely for the use of, the Client identified on the cover sheet for the purpose for which it has been prepared.*

The Client agrees that it will not disseminate this Report or its contents to any third party, without our prior written consent. If a third party does obtain this Report or any of its contents, we undertake no duty nor accept any responsibility to any third party who may rely upon this Report, whether in contract, tort, statute or otherwise. A third party may only rely on this Report if it has signed a formal letter of reliance with us.

No section or element of this Report may be removed from this Report, reproduced, electronically stored or transmitted in any form without our prior written consent.

A copy of this report may be provided by the Client, if and to the extent required by law, to any regulator or governmental body to which the Client is subject, and any professional advisers of the Client who need to see this Report in connection with the purpose (excluding any person who provides similar services to us), provided that in each case, the Client seeks our prior written consent and the Client must then take all steps necessary to ensure that the recipient understands and accepts these terms.

1. Executive Summary

One archaeological site R11/492 has been relocated in the vicinity of the development. It was recorded in 1977 and was not relocated during archaeological surveys in 2001 and 2009. The updated site record in the national database (ArchSite) is attached as an appendix.

It is outside the footprint of the development.

The development is located on 20th century cut and fill and therefore no archaeological values will be impacted upon.

There are no other heritage values within the area of development.

It is therefore recommended to continue with the development, taking note of the Accidental Discovery Protocol for taonga tuturu written by the Auckland Council.

Quality Information

Title: Archaeological Survey and Assessment of Effects: Hobsonville Point - marine recreation centre

Reference: 18_08

Author(s): Dr Janice Adamson

Dr Hans-Dieter Bader

Revision History:

Draft		Bader
Review	12/2018	Adamson
Revision	10/2019	Taylor (Kainga Ora)
Final	10/2019	Bader

Contents:

Figures:

Tables:

2. Glossary

Table 1: Archaeological terms.

C14	Dating method using the deterioration of Carbon 14 in living organisms
Firescoop	Fireplace used for various reasons (cooking, warming, etc.)
Hangi	Subterranean cooking oven using heated stones
Hapu	Māori sub tribe, part of a larger tribal federation
Kai moana	Seafood exploited by Māori including fish, shell fish and crustaceans.
Kainga	Māori undefended open settlement.
Kaumatua	Male elder(s) of a hapu (sub tribe)
Kuia	Female elder(s) of a hapu (sub tribe)
Mana Whenua	People of the land with mana or customary authority
Midden	Refuse from a settlement, mainly shell fish.
Pa	A site fortified with earthworks and palisade defences. Modern meaning differs from archaeological use of the word.
Pit	Rectangular excavated pit used to store crops by Māori
Posthole	Archaeological remains of a post used for various reasons
Prehistory	Period before European arrival
Rohe	Settlement area of a Māori sub tribe (hapu)
Terrace	A platform cut into the hill slope used for habitation or cultivation
Urupa	Burial ground
Wahi tapu	Sites of spiritual significance to Māori
Whare	Traditionally built Māori sleeping house

3. Introduction

3.1. Purpose and Scope

Archaeology Solutions Ltd were engaged by Houses, Land, Community Ltd (HLC) to undertake a small survey along the foreshore for a new water sports facility and at the back of a planned development (on behalf of Willis & Bond Ltd) at Hobsonville Point. The assessment was undertaken to identify the possibility of recorded and/or unrecorded archaeological remains in the vicinity of the proposed works and to assess any impact the proposed works could have on any heritage values of the location.

This report outlines the results of the investigations.

This report has been prepared to identify any requirements under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA).

This survey and report do not necessarily include the location of *wahi tapu* and/or sites of cultural or spiritual significance to the local Māori community who may need to be consulted for any information or concerns they may have regarding the proposed works.

3.2. Project Description

The proposed project is to develop a new water sports recreation centre, as a new home for the rowing club and similar activities.

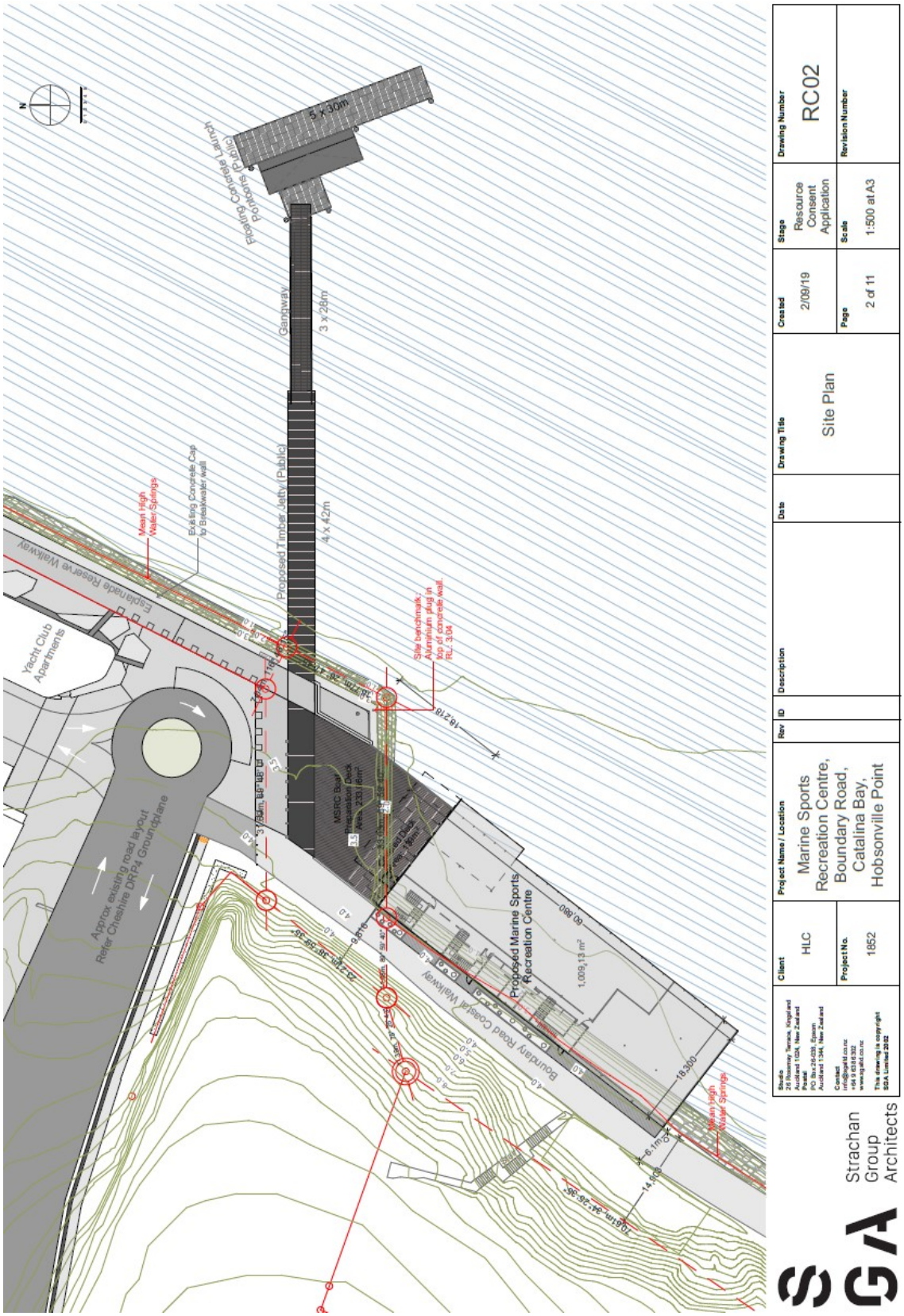


Figure 1: Proposed building.

Figure 2: Elevation of proposed building.

3.3. Study Area

The study area was two small areas on either side at the end of Launch Road leading to the waterfront at the Upper Waitemata Harbour at the old flying boat base in Hobsonville.

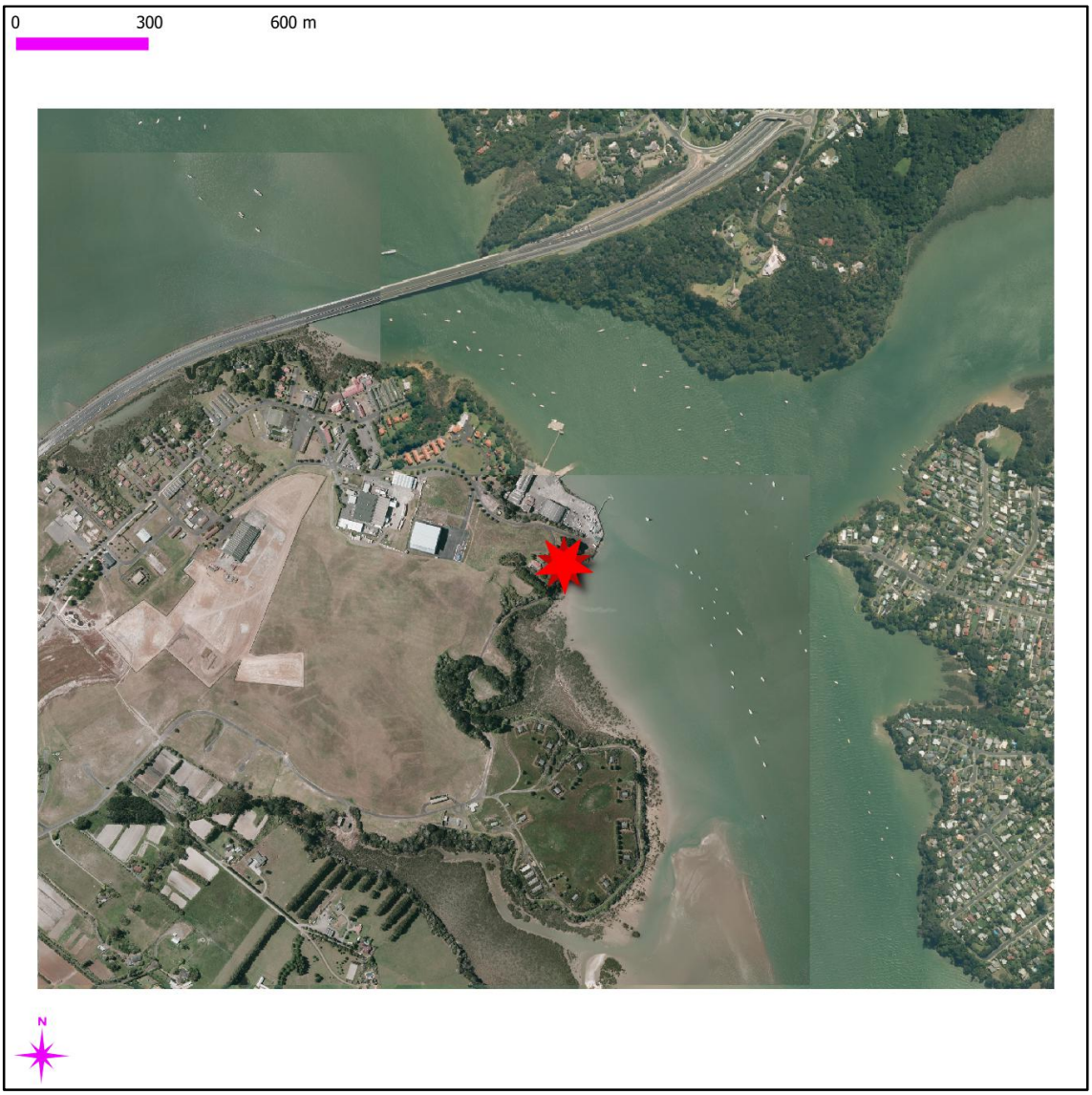


Figure 3: Location of the study area in Hobsonville, Auckland.

4. Statutory Requirements

There are two main pieces of legislation in New Zealand that control work affecting archaeological sites. These are the *Heritage New Zealand Pouhere Taonga* Act 2014 (HNZPTA) and the *Resource Management* Act 1991 (RMA)

This assessment considers only archaeological sites as defined in the HNZPTA as outlined below.

4.1. Heritage New Zealand Pouhere Taonga Act 2014

Heritage New Zealand Pouhere Taonga (HNZ) administers the HNZPTA. The HNZPTA contains a consent (authority) process for any work affecting archaeological sites, where an archaeological site is defined as:

> *"6(a) any place in New Zealand, including any building or structure (or part of a building or structure), that –*
>
> (i) *was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and*
>
> *(ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and*
>
> *6(b) includes a site for which a declaration is made under section 43(1)"*

Any person, who intends carrying out work that may damage, modify or destroy an archaeological site, or to investigate a site using invasive archaeological techniques, must first obtain an authority from HNZ. The process applies to sites on land of all tenure including public, private and designated land. The HNZPTA contains penalties for unauthorized site damage or destruction

The archaeological authority process applies to all sites that fit the HPA definition, regardless of whether:

- The site is recorded in the NZ Archaeological Association Site Recording Scheme or registered by HNZ,
- The site only becomes known about as a result of ground disturbance, and/ or
- The activity is permitted under a district or regional plan, or a resource or building consent has been granted

HNZ also maintains the List of Historic Places, Historic Areas, Wahi Tapu and Wahi Tapu Areas. The List can include archaeological sites. The purpose of the List is to inform members of the public about such places and to assist with their protection under the Resource Management Act (1991).

4.2. Resource Management Act 1991

Under Section 6 of the *Resource Management Act* 1991 (RMA) it is stated that the protection of historic heritage is a matter of national importance,

> *"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:*
>
> *[…]*
>
> *(e)the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga*
> *(f) the protection of historic heritage from inappropriate subdivision, use, and development."*

"*Historic heritage*" is defined in the RMA as being "those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures" and includes archaeological, architectural, cultural, historic, scientific and technological qualities.

Historic heritage includes:

- historic sites, structures, places, and areas
- archaeological sites;
- sites of significance to Māori, including wahi tapu;
- surroundings associated with the natural and physical resources (RMA section 2).

These categories are not mutually exclusive and some archaeological sites may include above ground structures or may also be places that are of significance to Māori.

Where resource consent is required for any activity the assessment of effects is required to address cultural and historic heritage matters (RMA 4th Schedule and the district plan assessment criteria).

Section 17 of the RMA states "*Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person*", and this includes historic heritage.

In Auckland the Auckland Unitary Plan, Operative in part, has specific provisions for historic heritage and places of significance to mana whenua. Note that scheduled historic heritage places have a stronger protection than archaeological sites that are not scheduled in the Plan.

5. Methodology

5.1. Investigation Methodology

This assessment was carried out using both desktop research and a site visit.

5.2. Desktop Research Methodology

Sources for desktop research include:

- NZ Archaeological Association (NZAA) online site recording database Archsite and associated site records
- LINZ database of historic maps and survey plans via Quickmaps
- Heritage New Zealand Heritage List/ Rārangi Kōrero of historic places, historic areas and wahi tapu areas
- Heritage New Zealand online reports database
- Auckland Council Geomaps GIS viewer
- Auckland Council Cultural Heritage Inventory (CHI)
- Local histories – published and unpublished
- Archaeological reports
- Aerial photographs

5.3. Site Surveys

The site survey was conducted on 19th December 2018. Visual inspection of the areas and probing using a 'gum spear' was undertaken. Photos were taken using a digital camera and the archaeological site location was recorded using a handheld GPS on averaging function.

6. Background

6.1. Physical Environment

The coastal area at the inner Waitemata around Hobsonville is usually a coastal bench of 3 to 4 metres above Mean High Water consisting of clayey topsoil above mud and sandstone. Silting during the last century has increased the tidal mud flats and mangroves are spreading along the coast.

6.2. Māori land use

The upper Waitemata Harbour was a vital sea route connecting the Hauraki Gulf, Manukau Harbour (and Waikato River via Manukau) with the Kaipara Harbour. Kai moana was a valuable resource along this sea route. Many iwi have links with this area, but foremost through history were Waihoua, Te Kawerau A Maki and Ngati Whatua.

Despite the paucity of the soil for horticulture, some gardening can be expected. A large paa is recorded just across the harbour, roughly were the motorway bridges crosses today.

6.3. Colonial Historical Context

The 'musket wars' left most of this area lightly occupied by Maori and it was sold to the Crown in the 1850s with 'pre-emptive waiver claims' to be resolved.

The clay industry took hold of the Hobsonville area especially in Limeburner's Bay though clay was quarried at other sites of the peninsula too ((Eaves 1990)).

It took a lot of drainage work to create pastures or grass seed growing areas from the swampy wetlands, not helped by gum digging leaving quite uneven grounds.

6.4. Subsequent Property History

The subsequent history of the Hobsonville Air base has been detailed elsewhere ((Dawson 2007), (Clough and Macready 2009)).

The two important developments for this report is the final cut and fill of the Seaplane base as shown in an early oblique aerial (see below) and the reclamation for boundary road between 1940 and 1950, which can be seen in two aerial surveys (see below)

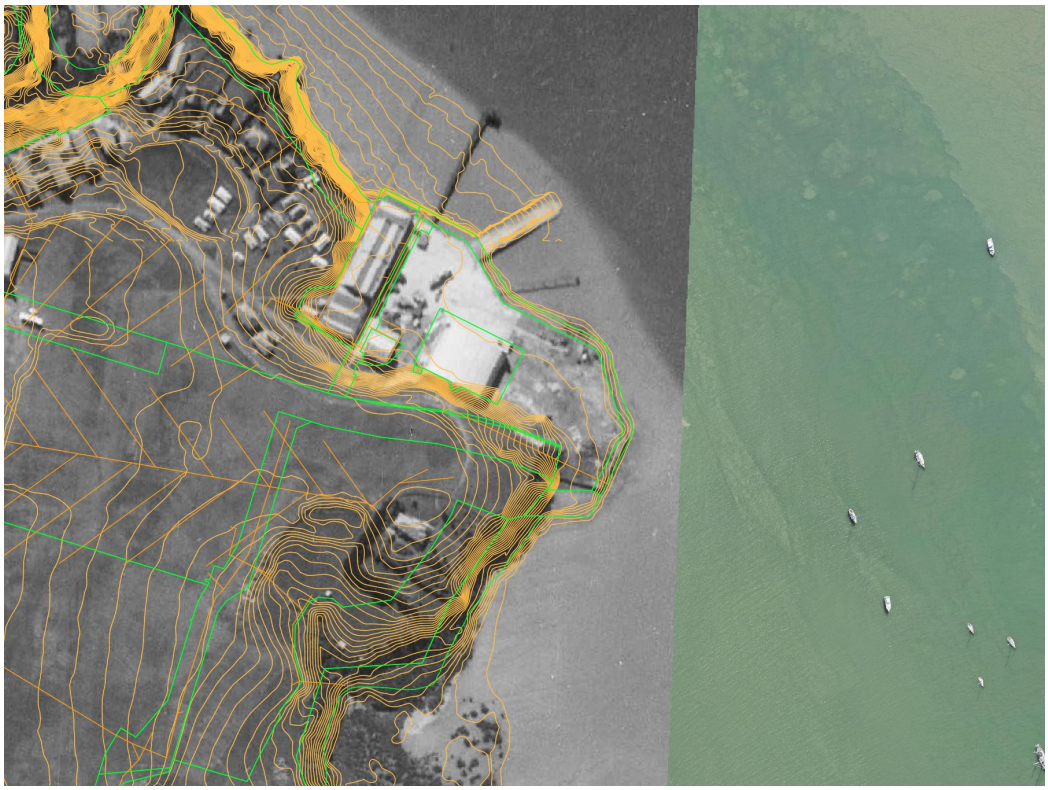


Figure 4: Aerial survey 1940. Boundary road not yet constructed.

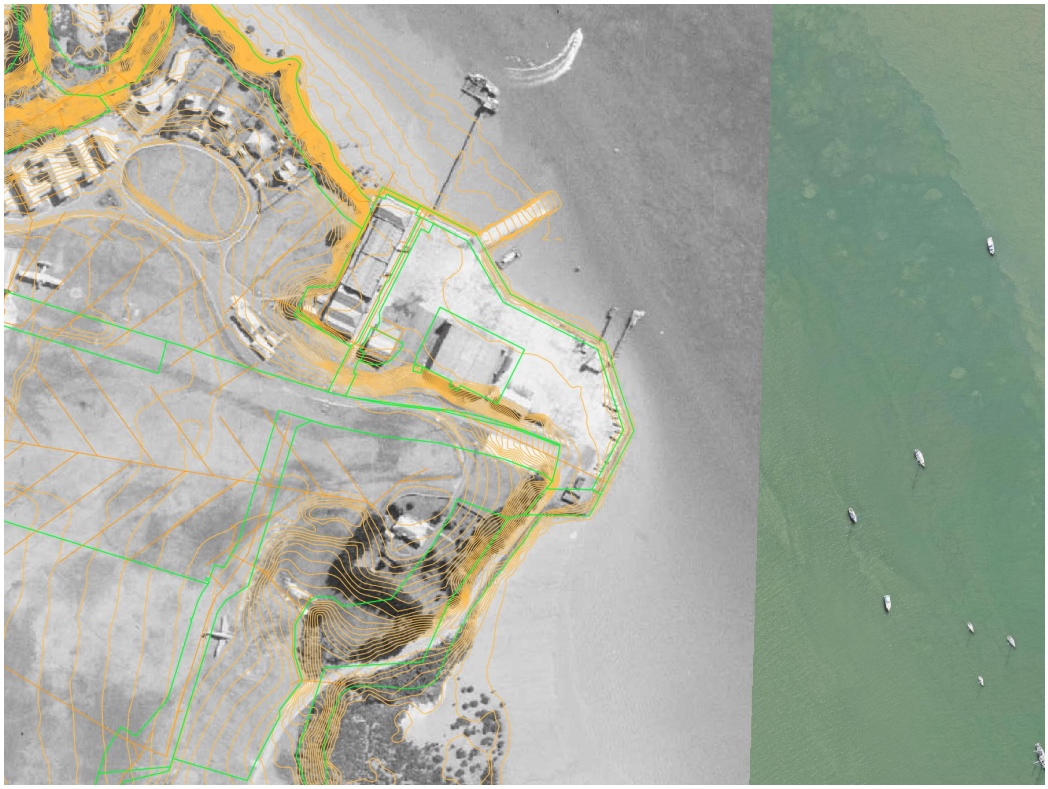


Figure 5: Aerial survey 1950. Launch Road and Boundary road in place.

Figure 7. Construction of eastern platform of the seaplane apron (The Landing) 1936, showing downcutting and reclamation. Flying wing HQ building and workshops in place (photo: Wallingford collection reproduced in Dawson 2007: 52)

Figure 6: Cut and Fill of the Seaplane station in 1936. Note the sandstone formations in the tidal zone on the left of the photo.

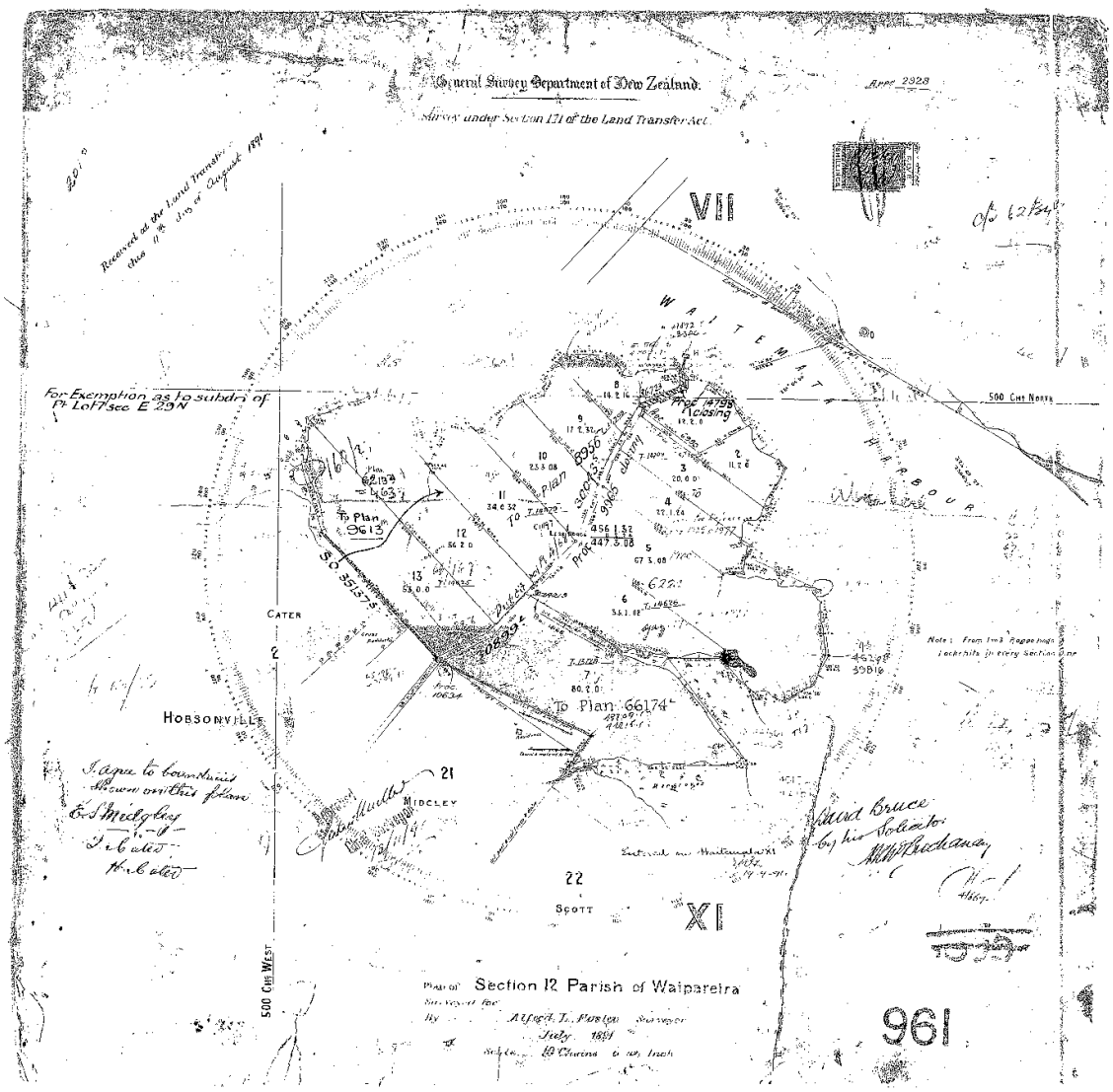


Figure 7: DP 961 dated 1891.

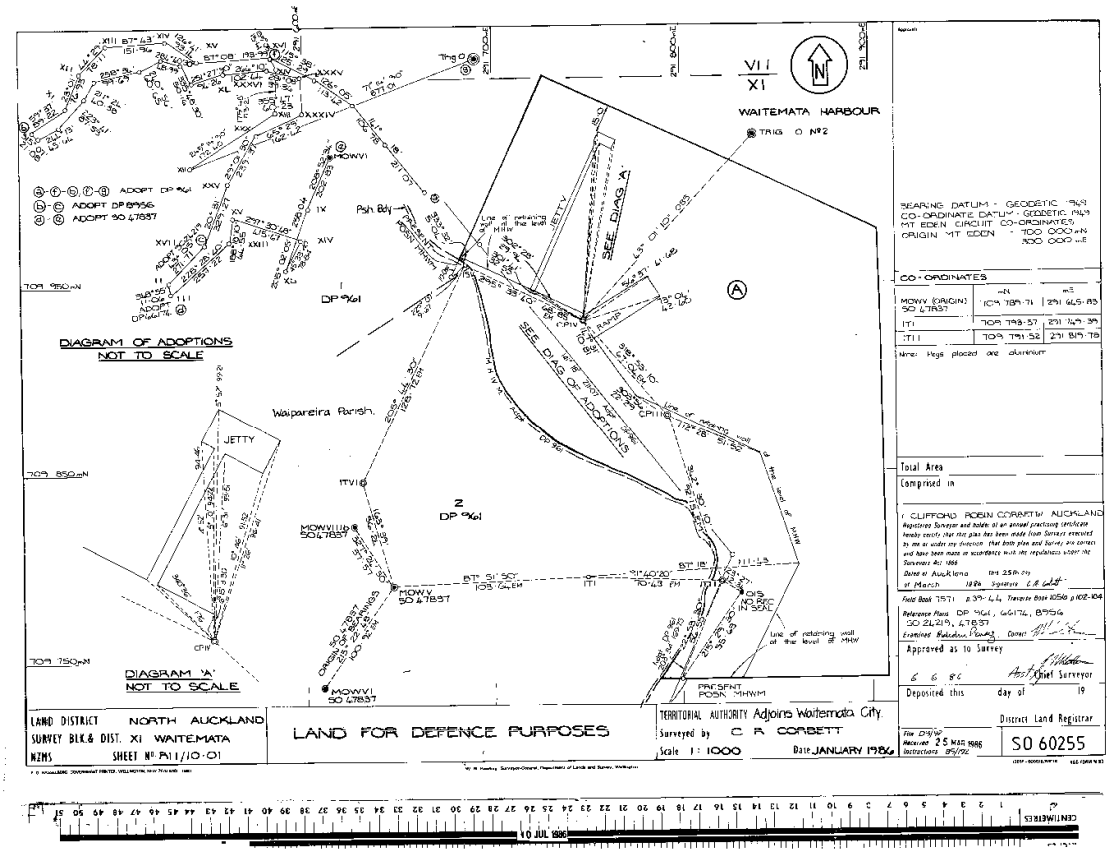


Figure 8: SO 60255 dated 1986 which shows coastline from 1891 in relation to the sea wall of the Sea plane station.

6.5. Archaeological Context

A number of coastal midden are recorded along Hobsonville peninsula, but only one R11/492 is close to the proposed development.

It was recorded in 1977 and could not be relocated during two surveys in 2001 and 2009. It has been relocated during the fieldwork for this report.

Table 2 Details of previously recorded heritage and archaeological sites in the vicinity.

NZAA Site #	CHI #	Site Type/Name	Potential effects	Description
R11/492	5952	Shell midden	none	Shell midden recorded in 1977.
-	multiple	Buildings and installations of the sea plane station	none	Heritage buildings and a heritage precinct are close by.

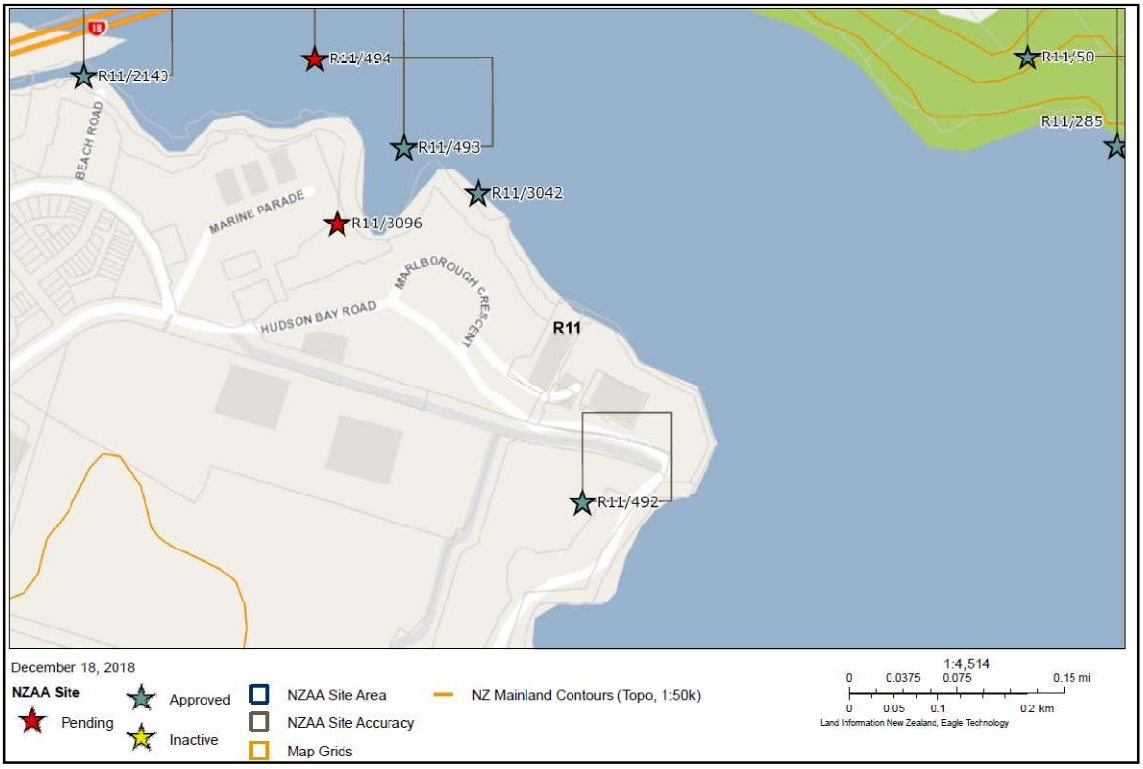


Figure 9: ArchSite archaeological sites in the vicinity.

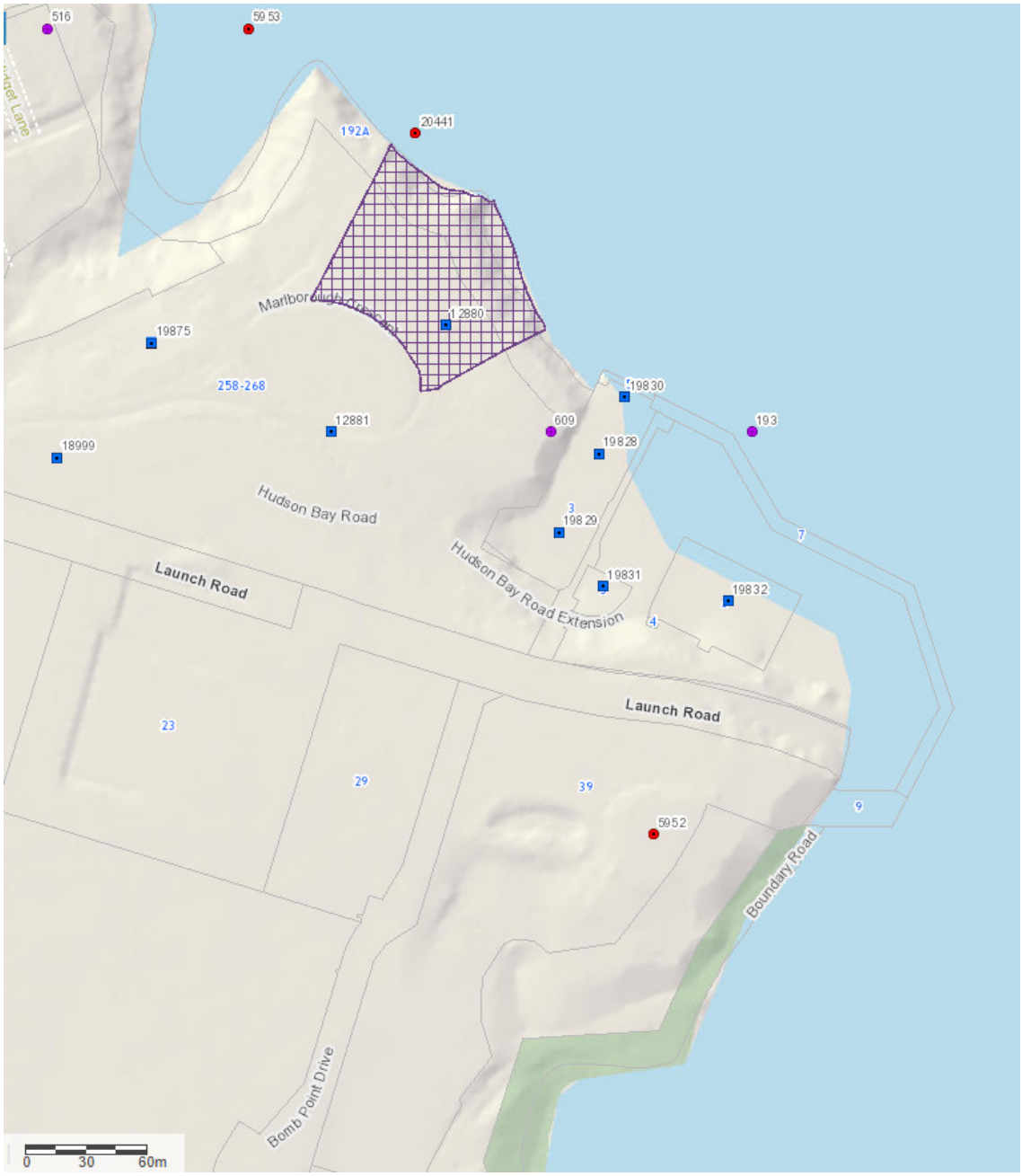


Figure 10: CHI heritage sites in the vicinity, including heritage precinct.

6.6. Previous archaeological surveys

Several surveys were conducted in the area:

1977, Hayward & Diamond 1978

2001, Clough & Prince 2001

2008 August and November, Macready & Clough 2008

2009, Clough & Macready 2009

6.7. Previous archaeological work within the area affected

One authority was issued for vegetation removal and replanting and the construction of a coastal walkway in the area of 'Sunderland/Hudson Precinct Hobsonville Point'. It included the site R11/492.

Table 3 Previous archaeological investigations in the surrounding area.

NZAA Site #	Location	HNZ Authority	Description	Reference
R11/492, 493, 494, 2140 and unrecorded sites	Sunderland/Hudson Precinct Hobsonville Poin	2013/648		CHI bibliography

7. Results of Site Survey and Research

The area of the proposed development does not show any signs of a surface or sub-surface archaeological or heritage site.

The shell midden site R11/492 has been relocated in the exact location indicated by the original site record, on the verge of the bank overlooking Boundary Road and 100 metres south of the Rowing Club building. The site record has been updated.

It is only a small scattered patch of fractured shell midden visible on the surface. It seems likely that further damage occurred since the original site record in 1977. Despite the number of site surveys it has only now been relocated. It is outside the development area.

Furthermore Boundary Road is in this area most likely completely build up from reclamations. Reclamations are also the base for the turning circle at the end of Launch Rd.

Boundary Road and Launch Road were created between 1940 and 1950.

The sea plane base consists of a cut and fill development in 1936 which means that the bank behind the buildings coming off Launch Rd has been created at that time and is not original ground. Singular shells found on this bank are therefore not part of an archaeological site but have been imported with topsoil onto this bank. There is no archaeological site on this bank created in 1936.

The following pictures show the reclamation wall along Boundary Road, the site R11/492 and its location. They also show the boundary between cut and fill (the original shoreline from a map DP 961, dated 1892) on the sea plane base.

It should be noted, that the foreshore along this stretch of Boundary Road consists of mudstone or sandstone with a thin cover of mud.

Figure 11: 1891 coastline shown on modern aerial. South of the line is a cut of up to three metres and north of it is fill. The red start indicates the location of site R11/492.

Figure 12: Detail of the coastline of 1891 in relation to the fill of the end of Launch Rd and Boundary Rd. Location of R11/492 indicated by red star.

Figure 13: Approximate overlay of proposed rowing club.

Figure 14: Scattered shell midden of R11/492.

Figure 15: Start of the retaining wall below Boundary Rd (southern side of large tree).

Figure 16: Retaining wall along area of proposed development.

Figure 17: Retaining wall across fill of turning circle at the bottom of Launch Rd.

8. Discussion

No archaeological site has been recorded within the proposed development areas.

No heritage building or structure is impacted upon by the proposed developments. This excludes any visual or amenity values of the heritage buildings close by and any assessment of the impact onto any visual or amenity values by the proposed development.

9. Constraints and Limitations

The interpretation of the pre Contact Maori landscape is based on visual inspection and probing only.

This assessment does not include an assessment of the visual impact of the proposed developments close to heritage buildings or close to the heritage precinct.

This survey and report do not necessarily include the location of *wahi tapu* and/or sites of cultural or spiritual significance to the local Māori community who may need to be consulted for any information or concerns they may have regarding the proposed works.

10. Archaeological Values

10.1. Assessment Criteria

> *"Archaeological values relate to the potential of a place to provide evidence of the history of New Zealand. This potential is framed within the existing body of archaeological knowledge, and current research questions and hypotheses about New Zealand's past. An understanding of the overall archaeological resource is therefore required" (NZHPT 2006).*

The following value assessment is based on Gumbley (1995), Walton (2002).

The assessment criteria are split into two sections: Main Archaeological values and Additional values:

The first archaeological values look at an ***intra (within the) site*** *context.*

- **Condition**:
  How complete is the site? Are parts of it already damaged or destroyed?
  Condition varies from undisturbed to destroyed and every variation in between. It is also possible that the condition of various parts of the site varies.

- **Rarity/Uniqueness:**
  Rarity can be described in a local, regional and national context. Rarity can be rare as a site, or rarely examined or today a rare occurrence in the records.

- **Information Potential:**
  How diverse are the features to be expected during an archaeological excavation on the site?
  How complete is the set of features for the type of site?
  Can the site inform about a specific period or specific function?

The second set of archaeological values are ***inter site*** *(between sites) context* criteria:

- **Archaeological landscape / contextual value:**
  What is the context of the site within the surrounding archaeological sites?
  The question here is the part the site plays within the surrounding known archaeological sites. A site might sit amongst similar surrounding sites without any specific features. Or a site might occupy a central position within the surrounding sites. Though a site can be part of a complete or near complete landscape, whereby the value of each individual site is governed by the value of the completeness of the archaeological landscape.

- **Amenity value**:
  What is the context of the site within the physical landscape?
  This question is linked to the one above, but focuses onto the position of the site in the landscape. Is it a dominant site with many features still visible or is the position in the landscape ephemeral with little or no features visible? This question is also concerned with the amenity value of a site today and its potential for onsite education.

- **Cultural Association:**
  What is the context of the site within known historic events or to people?

> This is the question of known cultural association either by tangata whenua or other descendant groups. This question is also concerned with possible commemorative values of the site.

Additional values can include (NZ Historic Places Trust (NZHPT) 2004):

1 Architectural

2 Historic

3 Scientific

4 Technological

5 Aesthetic/Visual impact

6 Cultural

The last value, cultural, acknowledges if there is an impact onto Māori cultural values. This assessment will not evaluate these, but rather state their relevance in relation to the other values.

In addition, the Auckland Unitary Plan (Part 1, Chapter B: 5.2.2) outlines a place as having historic heritage value if it has one or more of the following values:

> Identify and evaluate a place with historic heritage value considering the following factors:
>
> (a) historical: the place reflects important or representative aspects of national, regional or local history, or is associated with an important event, person, group of people, or with an idea or early period of settlement within New Zealand, the region or locality;
>
> (b) social: the place has a strong or special association with, or is held in high esteem by, a particular community or cultural group for its symbolic, spiritual, commemorative, traditional or other cultural value;
>
> (c) Mana Whenua: the place has a strong or special association with, or is held in high esteem by, Mana Whenua for its symbolic, spiritual, commemorative, traditional or other cultural value;
>
> (d) knowledge: the place has potential to provide knowledge through archaeological or other scientific or scholarly study, or to contribute to an understanding of the cultural or natural history of New Zealand, the region, or locality;
>
> (e) technology: the place demonstrates technical accomplishment, innovation or achievement in its structure, construction, components or use of materials;
>
> (f) physical attributes: the place is a notable or representative example of:

(i) a type, design or style;

(ii) a method of construction, craftsmanship or use of materials; or

(iii) the work of a notable architect, designer, engineer or builder;

(g) aesthetic: the place is notable or distinctive for its aesthetic, visual, or landmark qualities;

(h) context: the place contributes to or is associated with a wider historical or cultural context, streetscape, townscape, landscape or setting.

10.2. Archaeological Values Assessment

No sites are recorded in the development area or have been found during the survey.

There are no archaeological values to be assessed.

10.3. Additional values assessment

There are no additional values to be assessed.

The Auckland Unitary Plan requires looking at the proposed development within the wider landscape. There are no amenity values of archaeological sites nearby impacted upon by the development.

The impact onto existing heritage buildings in the vicinity in terms of visual and/or amenity values have not been evaluated as part of this assessment.

11. Assessment of Effects

The assessment of effects follows the basic guidelines for preparing assessment of environmental effects that includes a discussion on the nature of environmental effects (MfE 1999). It should be remembered that an archaeological excavation of a site mitigates only the loss of archaeological information but not the loss of the site and its contextual, cultural and educational values (NZHPT 2006).

Effects must be considered,

of how much of the site will be affected

if the future risk of damage is increased

whether a design change may avoid adverse effects on the site(s)

There are no adverse effects onto the archaeological resource by the proposed development.

11.1. Site Management & Mitigation

Possible methods to protect sites, and avoid, minimize or mitigate adverse effects will be discussed.

The following mitigation process for the very small risk of uncovering unrecorded archaeological features is proposed:

- Induction of all contractors to the Accidental Discovery Protocol of Auckland Council.

12. Conclusions & Recommendations

No archaeological features have been recorded during the survey or were previously recorded within the proposed development.

The risk to encounter sub surface archaeological features is very small.

There are no recommendations other than raising awareness of the subcontractor to the existing legal framework and their obligations within this framework.

13. Acknowledgments

The author would like to thank iwi for raising the issue as well as the project manager, Erin Taylor and HLC for detailed discussions of the project.

It was well worth the effort to finally relocate the site R11/492 and document its current condition.

14. Appendix

- Updated site record for R11/492

15. References

Clough, R., and S. Macready. 2009. HOBSONVILLE LANDING : AEE (ARCHAEOLOGY). Report prepared for BECA and Hobsonville Land Company.

Dawson, B. 2007. *Hobsonville: Portrait of a Seaplane Station*. Auckland: Random House.

Eaves, M. 1990. The Heavy Clay Industry in Auckland. Unpublished MA thesis, University of Auckland.

Gumbley, Warren. 1995. Guidelines for the provision of archaeological information and assessment for authority applications under section 11 or 12 of the Historic Places Act 1993. *Archaeology in New Zealand* 38 (2):100-105.

NZ Historic Places Trust (NZHPT). *Heritage Management Guidelines for Resource Management Practitioners* 2004. Available from www.heritage.org.nz.

Walton, Anthony. 2002. Assessing archaeological value. *Archaeology in New Zealand* 45 (3):220-236.

APPENDIX 18
TRANSPORT ASSESSMENT

3 October 2019

Erin Taylor
HLC
PO Box 84143
Westgate
AUCKLAND 0657

Via email: erin.taylor@hlc.co.nz
Cc: Rachelle.Raw@hlc.co.nz

Dear Erin

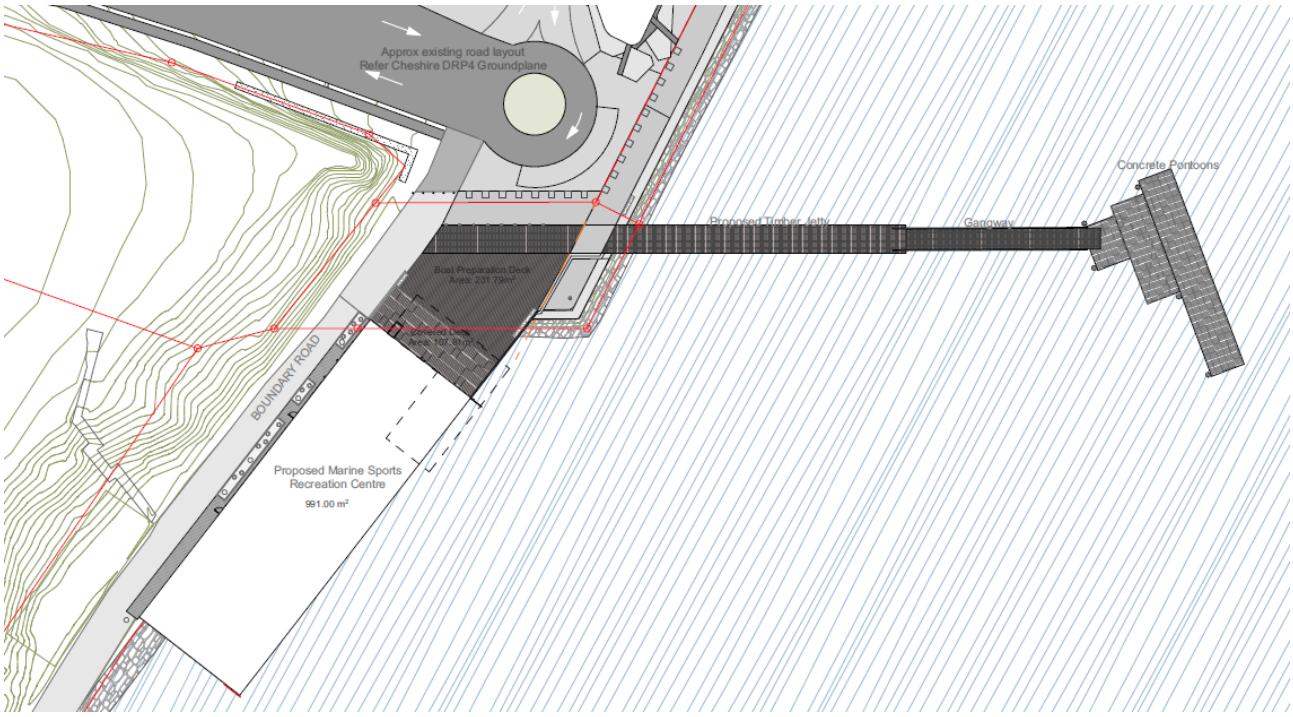
Catalina Bay Marine Sports Recreation Centre transport assessment

HLC has engaged Flow Transportation Specialists Ltd (Flow) to assess the transport matters related to the proposed Marine Sports Recreation Centre (MRC) in Catalina Bay. We report as follows.

1 The proposal

The general layout of the MRC is shown in Figure 1. We note that the roundabout layout shown in this figure is indicative only. A concept layout for the roundabout is attached to this letter for reference.

Figure 1: Proposed MRC general layout



The proposed MRC has the following key features.

- A new two-storey building with boat storage on the ground floor and club rooms on the first floor that can accommodate up to 300 people
- A new deck to the north of the building, to be used as a boat preparation area, this is approximately 230 m^2 and large enough to cater for all boat preparation activities
- A jetty, gangway, and floating concrete pontoon extending out into the water

There will be no direct vehicle access for general traffic to the MRC. All general loading and parking will occur on Launch Road, and other surrounding streets. Some specific servicing loading requirements will need to be undertaken on Boundary Road, which is a pedestrian/cycle route next to the MRC, via a managed access.

2 Unitary Plan Section E27 assessment

We have assessed the proposal against the requirements of Section E27 of the Auckland Unitary Plan – Operative in Part (Unitary Plan). The only areas of non-compliance are

- E27.6.1. Trip Generation – for a capacity event, the MRC could generate more than 100 vehicle trips per hour
- E27.6.2 (1) Number of parking spaces – no parking is provided on the MRC site, the required parking will be accommodated on Launch Road

As we have outlined previously, the MRC site has no direct vehicles access. As such, our assessment focusses on the above matters.

3 Anticipated activities occurring at the MRC

Based on information provided, the proposed Catalina Bay Marine Sports Recreation Centre will include the following key activities.

- Junior sailing - 15-20 children plus coaches/instructors
  - Wednesday and Friday nights arriving 4pm, finishing around 7pm
  - Sundays, arriving between 10am and 2pm, staying for around 3 hours
- Senior Sailing - up to 8 yachts/40 people on Sundays, launching from and returning to other areas
  - Sunday prize giving 6pm to 7pm
- Westlake Boys High School Rowing Club – up to 60 rowers plus coaches
  - Summer training Monday to Friday arrive 4:45am generally by car, departing around 8am mostly via a bus provided by the school
  - Winter training similar to summer, but with less athletes and lower frequency
  - Weekend training similar to weekday training timings
- Regional Performance Centre (RPC) Rowing – up to 20 rowers plus coaches
  - Monday to Friday training 4:45am to 10:30am, and 4:00pm to 7:00pm
  - Weekend training - 4:45am to 10:30am
- General events – typically assumed to be weekday evenings or on the weekend – up to 300 people

Junior sailing activities will require the sailing boats to be pulled by hand along the Boundary Road path to the launching area at the start of the session, and returned at the end. Rowing boats can be brought out of the building directly onto the boat preparation area.

We understand that generally the boats used by the activities at the MRC will be kept on site. As such, there will not regularly be cars with trailers arriving to drop off/pick up boats. The main exception to this is when rowing boats will need to be loaded onto a trailer and taken to weekend regattas.

Westlake Boys rowing attends around 12 regattas during the summer months, and RPC around 10. It is therefore only around 22 times a year that rowing boats will need to be loaded, and unloaded from trailers.

4 Vehicle traffic assessment

Based on our understanding of the key activities at the MRC, we have estimated the volume of traffic likely to be generated at key activity times, closest to the weekday peak traffic periods. This is shown in Table 1.

For our estimation of traffic generation, we have assumed the following.

- All junior sailors will be dropped off by parents/care givers, with a portion of the parents/care givers then leaving again. These parents/care givers will then return again at the end of the session.
- For Westlake Boys rowers, we have assumed that around two thirds of students will be dropped off by parents/care givers, who will then leave again. Some rowers will be senior students who can drive themselves. The students who were dropped off by parents/care givers will leave by the bus put on by the school.
- For each of the marine activities, we have assumed 5 coaches/instructors/race management.
- For other events, we have assumed full capacity (300 people) and an average car occupancy of 2 people. We have assumed that a proportion of people will be dropped off, with the cars then leaving the site, rather than needing to park.

Table 1: Estimated vehicle trip generation

Time Period	Junior Sailing		Senior Sailing		Westlake Rowing		RPC		Other Events		Total
	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	
Weekdays 4:30 am to 5:30 am					65	40	25				**130**
Weekdays 7:30 am to 8:30 am						25					**20**
Weekdays 4:00pm to 5:00pm	25	15					25				
Weekdays 6:30 pm to 7:30pm	15	25						25	(150)	(50)	**65 (265)**

Based on this assessment, we estimate that the MRC could generate more than 100 vehicle trips per hour at certain times of day. This exceeds the threshold set by standard E27.6.1. Trip Generation.

Given the timing of and nature of the activities, the traffic generated by the MRC is unlikely to create any noticeable effects in the weekday peak hours of the network.

- The busiest time is likely to be earlier in the morning when the Westlake and RPC rowing groups arrive. This occurs well before the commuter peak
- If there is a capacity event in the club rooms, this could potentially generate up to 265 vehicle trips, however this would likely occur after peak commuter hours, and it is unlikely that this would occur while other marine activities are happening. Other events are also likely to be infrequent, and will not always be at capacity.

Overall, we do not consider that the non-compliance in relation to vehicle trip generation will affect the safe or efficient operation of the surrounding road network.

5 Bicycle parking

For community facilities, the Unitary Plan specifies the following bicycle parking requirements.

- Minimum 1 visitor space per 200 m^2 GFA
- Minimum 1 secure space per 500 m^2 GFA

Including the boat storage areas, the MRC has a GFA of around 1,250 m^2. Based on this GFA the MRC requires 6 visitor bicycle parking spaces and 3 secure bicycle parking spaces.

The proposed bicycle parking is shown in the architectural plans.

- Three bicycle racks (accommodating up to 6 bicycles) are proposed adjacent to Boundary Road, at the northern end of the building. These will be oriented so bikes parked here do not extend out onto Boundary Road.
- An additional 4 bicycle racks are proposed between the concrete bollards to the north (accommodating up to an additional 8 bicycles).
- Space for secure bicycle parking will be available within the boat storage areas, in an informal manner.

Based on the provision of outdoor bicycle racks, and the space inside the building for informal, secure bicycle parking, the Unitary Plan requirement is met.

6 Car parking assessment

The Catalina Bay development area is zoned Business-Mixed Use under the Unitary Plan. The site proposed for the MRC is zoned Open Space-Informal Recreation.

Based on the zoning, the Unitary Plan specifies the following car parking requirements for the proposed land use activities in the Catalina Bay development area.

- Clubrooms/community facilities – minimum 0.2 per person the facility is designed to accommodate/no maximum
- Retail/food and beverage – minimum 1 per 30m^2 GFA/no maximum
- Offices – no minimum/maximum 1 per 30 m^2 GFA
- Residential – no minimum/no maximum

We understand that when fully developed, the Catalina Bay development area will have around 2,890 m^2 of retail/food and beverage GFA. The MRC is being designed to accommodate up to 300 people. The minimum car parking required based on the above rates is shown in Table 2.

Table 2: Minimum car parking required

Land Use Activity	Minimum Car Parking Rate	Land Use Activity Size	Minimum Car Parking Requirement
Marine Sports Recreation Centre	0.2 per person	300 people	60
Retail/Food and Beverage	1 per 30 m^2 GFA	2,890 m^2 GFA	96
Office	No minimum	N/A	N/A
Residential	No minimum	N/A	N/A
Total			156

As shown in Table 2, the minimum amount of car parking required by the Unitary Plan to support the MRC alone is 60 spaces. No car parking will be provided within the MRC site. As such, the proposal does not comply with the minimum Unitary Plan requirement for car parking.

For the most part, the car parking provided on Launch Road is unmarked. However we estimate that there is space for at least 160 cars. The combined requirement of the MRC and the other existing consented land use activities in the Catalina Bay development area is 156 car parking spaces.

The car parking provided on Launch Road is sufficient to meet this full requirement. So while car parking will not be provided on site, there is sufficient parking in the area to accommodate the minimum Unitary Plan standard. We consider that parking provided on Launch Road is adequate to meet the needs of the MRC.

Further land use development in this area will be subject to separate assessments, which will include parking demand and provision, and therefore will not also be reliant on the Launch Road on-street parking.

7 Launch Road roundabout

The changes to the Launch Road roundabout are not included in the consent for the MRC, but are included in this assessment for reference. Concept plans are attached to this letter, and the key features are as follows.

- A slightly larger roundabout than the existing layout and a flush or slightly raised roundabout island, to better allow for bus tracking
- Bollards or wheel stops or kerbing around the outside of the roundabout circulating lane to protect/delineate the pedestrian areas
- A new zebra crossing on the western approach to the roundabout to allow for safer pedestrian movements and access to the waterfront esplanade (traffic calming features to ensure safe vehicle speeds yet to be determined)
- P5/loading space on the eastern /southern side of the roundabout
- Allowance for vehicle access to the MRC via Boundary Road

The details of this roundabout are being discussed with Auckland Transport. We note that parking on a roundabout is not usual, however, drop offs/pick ups are likely to occur in this area anyway, regardless of what controls are put in place. Providing space for this to occur will allow such behaviour to occur more safely, and with less impact on the roundabout operation.

Being located in the road reserve, we note that the P5/loading space cannot be reserved for MRC use. However the short time restriction will help ensure this area is regularly available. As noted above, parking is also available on Launch Road.

8 Loading and servicing

The MRC does not have more than 5,000 m^2 GFA. Therefore according to Table E27.6.2.7 of the Unitary Plan, does not require an onsite loading zone. However, there will be loading and servicing demand.

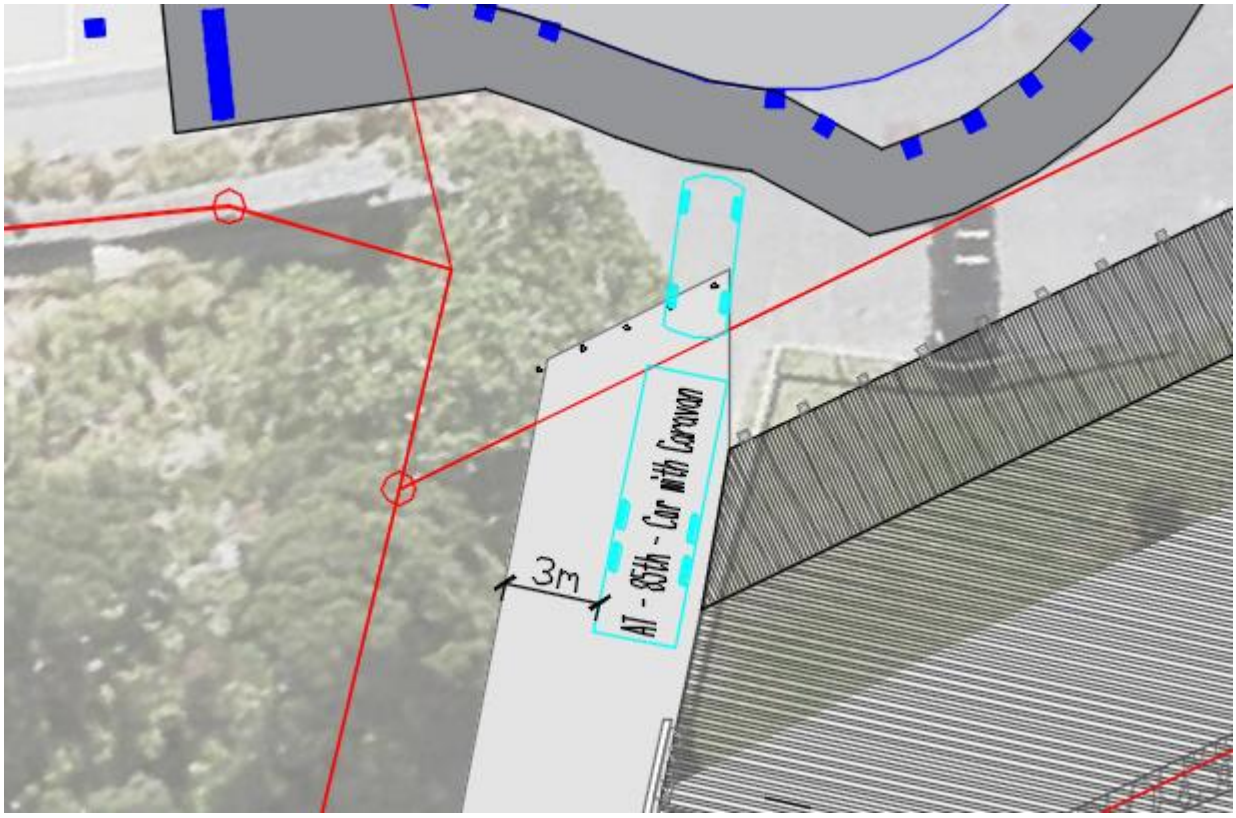
Loading and servicing for the most part will occur via the existing parking on Launch Road, and via the proposed P5/loading space on the Launch Road roundabout.

An exception for this is for the row boats that need to be (occasionally) transported for regattas. It is proposed that this will occur on Boundary Road, adjacent to the boat preparation area. This is considered acceptable for the following reasons.

- As shown in Figure 2 a car/trailer can be parked on Boundary Road, adjacent to the boat preparation area, with around 3 m space beside it, which will allow pedestrians and cyclists to pass (the trailer shown is 2.5m wide, same as the boat trailer)
- This loading would generally only occur before and after the 22 regattas that Westlake Boys and RPC attend each year

- Loading before a regatta would typically occur on a Thursday afternoon, however unloading after a regatta would typically occur on a Monday and Tuesday morning from 5am when Boundary Road would have very low volumes of pedestrians and cyclists using Boundary Road
- This loading typically wouldn't occur on weekends, when Boundary Road would be at its busiest

Figure 2: Row boat trailer loading



We recommend that a management plan is put in place by the MRC to help manage loading the row boat trailer. This will help ensure space is provided along the side to allow pedestrian and cyclists to pass. With this plan in place, we considered that this arrangement is acceptable and will have minimal impact on the operation of Boundary Road. This management plan should also cover the shifting of sail boats along Boundary Road, between the storage areas and the preparation/launching areas.

We have prepared a separate loading and servicing management framework which is provided with the resource consent application. This framework outlines the general requirements for the management plan. The MRC management will need to ensure somebody from the groups undertaking these activities responsible for implementing the management plan with the provisions we have outlined.

9 Conclusion

Based on our assessment outlined in this letter, we do not see any transport related reason for resource consent not to be granted.

- Sufficient parking is provided on Launch Road to meet the minimum requirements
- The traffic generated by the MRC is unlikely to generate any noticeable adverse effects on the transport network during peak weekday peak traffic hours

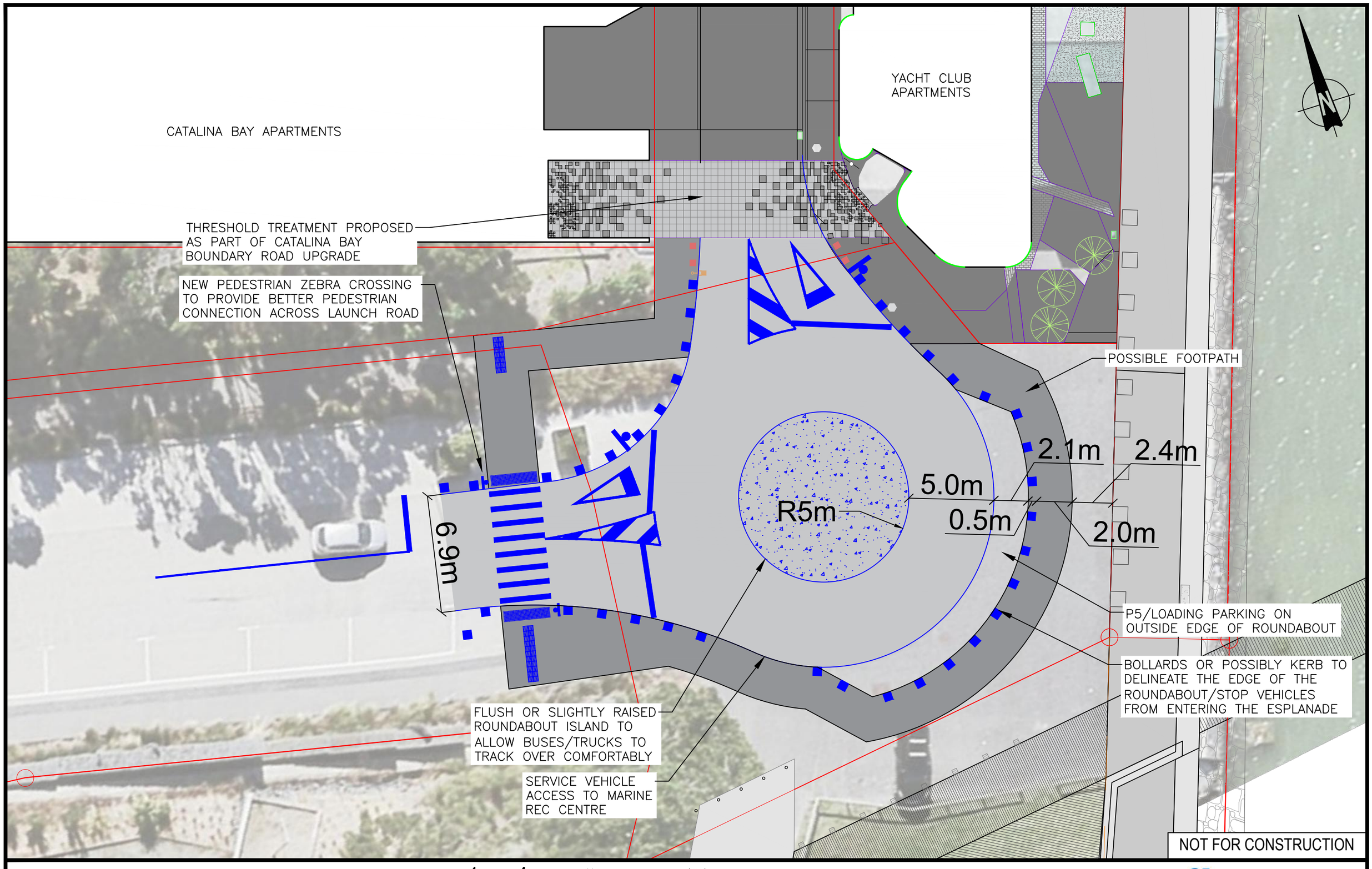
To ensure the MRC can operate safely, we recommend a management plan is put in place to regulate the use of Boundary Road for the loading and shifting of boats.

Yours sincerely,

Russell Brandon
SENIOR TRANSPORTATION ENGINEER

Reference: P:\hlco\052 Catalina Bay Marine Rec Centre and Launch Road Roundabout\L1B190821.docx - RussellBrandon

P:\hlco\052 Catalina Bay Marine Rec Centre and Launch Road Roundabout\Drawings\D1B190820 - Launch Rd Roundabout Concept.dwg vj 20/08/2019 3:59 pm



NOT FOR CONSTRUCTION

0 8m

1 of 4 sheets

scale:	1:200 A3	design:	rb
date:	17/07/2019	drawn:	rb
ref:	hlco 052	checked:	lb

status	issued
a	17/07/2019
b	20/08/2019

Launch Road Roundabout - Catalina Bay Concept Layout

flow
TRANSPORTATION SPECIALISTS
Level 1, 11 Blake Street, Ponsonby, Auckland | PO Box 47497 Ponsonby
p 09 970 3820 | f 09 970 3890 | www.flownz.com

vehicle tracking key:

- vehicle chassis outline (forwards)
- vehicle chassis outline (reverse)
- overhang of vehicle (forwards)
- overhang of vehicle (reverse)
- 500mm clearance (forwards)
- 500mm clearance (reverse)

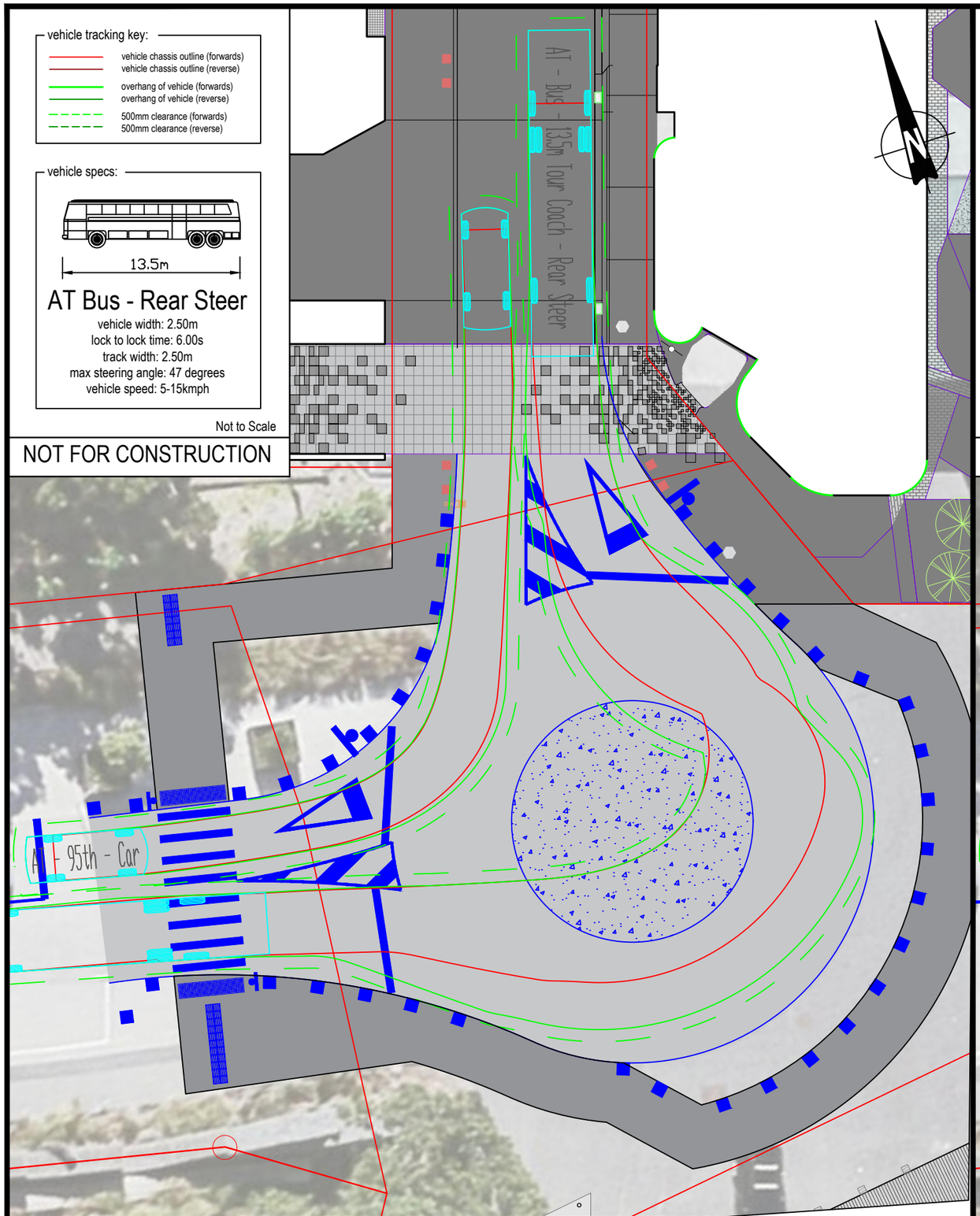
vehicle specs:

AT Bus - Rear Steer

vehicle width: 2.50m
lock to lock time: 6.00s
track width: 2.50m
max steering angle: 47 degrees
vehicle speed: 5-15kmph

Not to Scale

NOT FOR CONSTRUCTION



vehicle tracking key:

- vehicle chassis outline (forwards)
- vehicle chassis outline (reverse)
- overhang of vehicle (forwards)
- overhang of vehicle (reverse)
- 500mm clearance (forwards)
- 500mm clearance (reverse)

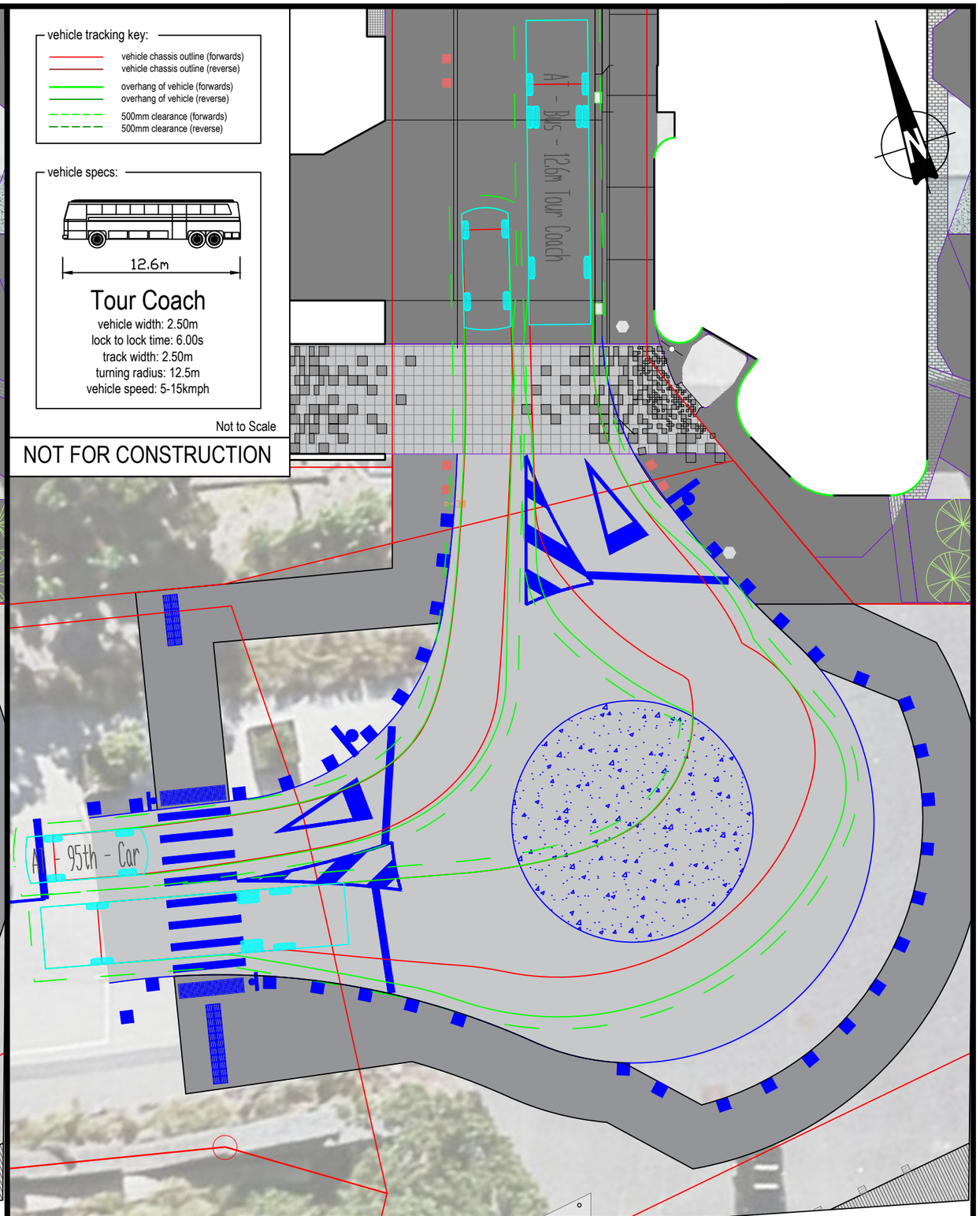
vehicle specs:

Tour Coach

vehicle width: 2.50m
lock to lock time: 6.00s
track width: 2.50m
turning radius: 12.5m
vehicle speed: 5-15kmph

Not to Scale

NOT FOR CONSTRUCTION



0 8m

2 of 4 sheets

scale:	1:200 A3	design:	rb
date:	17/07/2019	drawn:	rb
ref:	hlco 052	checked:	lb

status	issued
a	17/07/2019
b	20/08/2019

Launch Road Roundabout - Catalina Bay
Bus Tracking

flow
TRANSPORTATION SPECIALISTS
Level 1, 11 Blake Street, Ponsonby, Auckland | PO Box 47497 Ponsonby
p 09 970 3820 | f 09 970 3890 | www.flownz.com

vehicle tracking key:

- vehicle chassis outline (forwards)
- vehicle chassis outline (reverse)
- overhang of vehicle (forwards)
- overhang of vehicle (reverse)
- 500mm clearance (forwards)
- 500mm clearance (reverse)

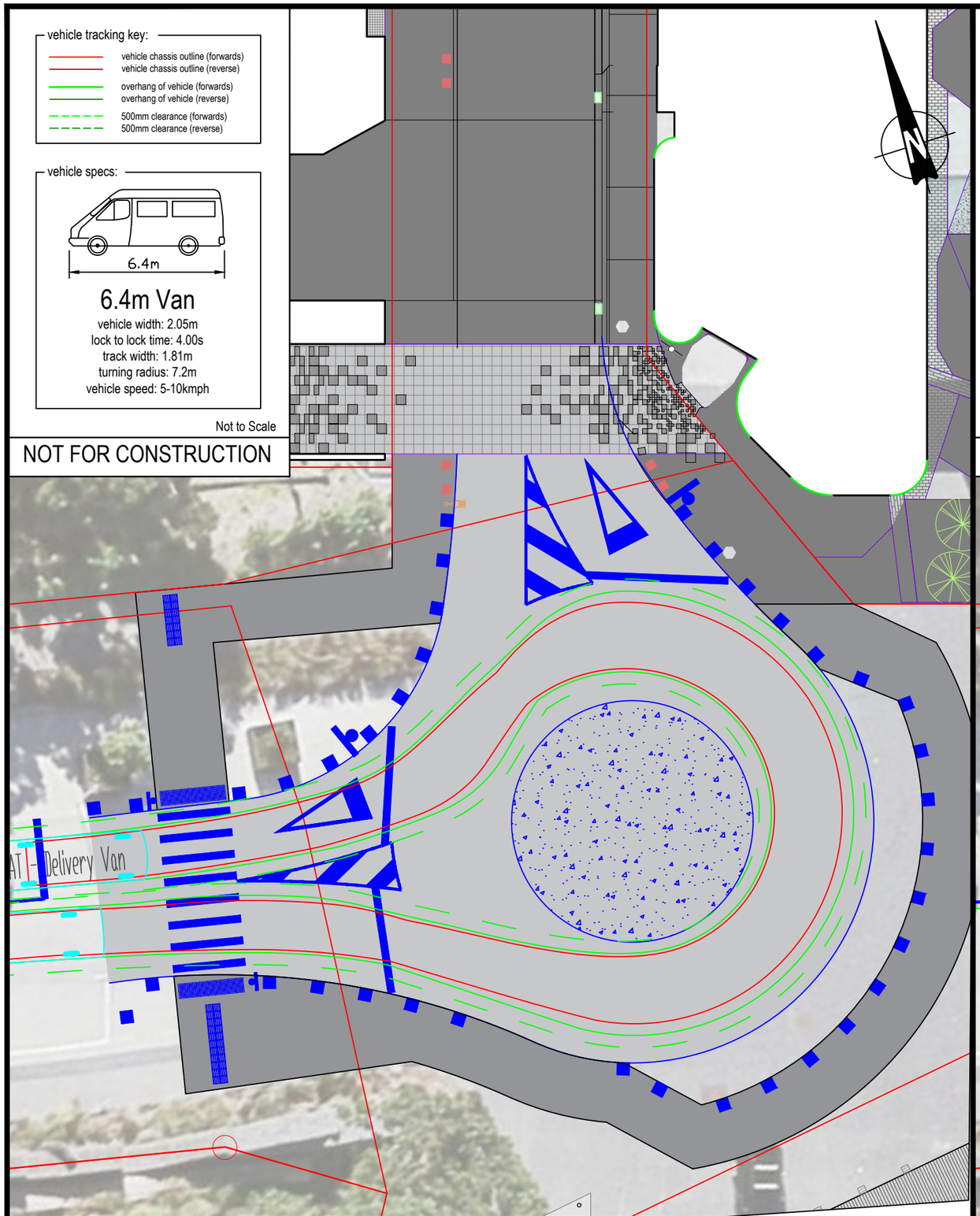
vehicle specs:

6.4m Van

vehicle width: 2.05m
lock to lock time: 4.00s
track width: 1.81m
turning radius: 7.2m
vehicle speed: 5-10kmph

Not to Scale

NOT FOR CONSTRUCTION



vehicle tracking key:

- vehicle chassis outline (forwards)
- vehicle chassis outline (reverse)
- overhang of vehicle (forwards)
- overhang of vehicle (reverse)
- 500mm clearance (forwards)
- 500mm clearance (reverse)

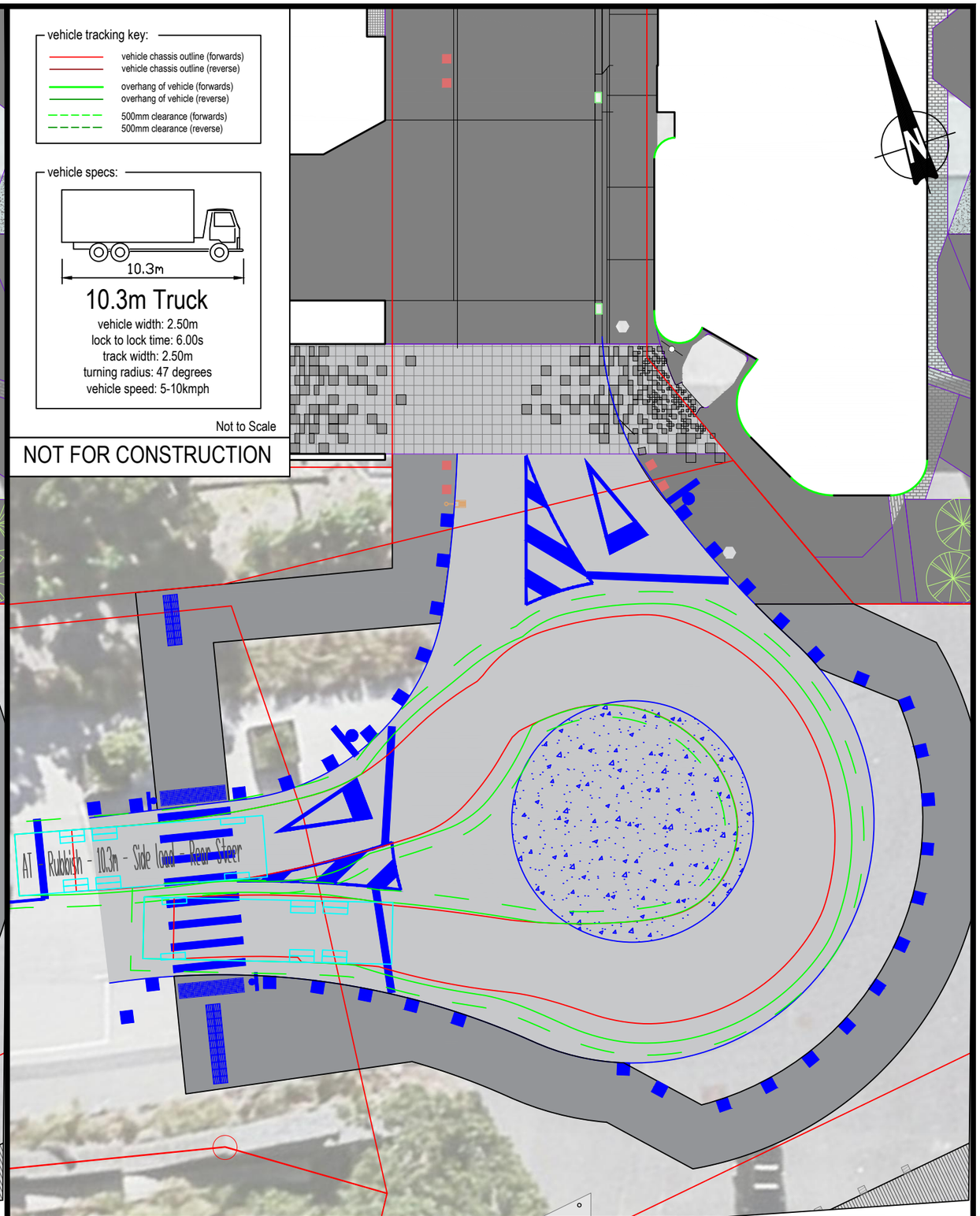
vehicle specs:

10.3m Truck

vehicle width: 2.50m
lock to lock time: 6.00s
track width: 2.50m
turning radius: 47 degrees
vehicle speed: 5-10kmph

Not to Scale

NOT FOR CONSTRUCTION



0 8m

3 of 4 sheets

scale:	1:200 A3	design:	rb
date:	17/07/2019	drawn:	rb
ref:	hlco 052	checked:	lb

status	issued
a	17/07/2019
b	20/08/2019

Launch Road Roundabout - Catalina Bay
U-Turn Tracking

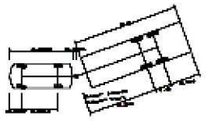
flow
TRANSPORTATION SPECIALISTS
Level 1, 11 Blake Street, Ponsonby, Auckland | PO Box 47497 Ponsonby
p 09 970 3820 | f 09 970 3890 | www.flownz.com

P:\hlco\052 Catalina Bay Marine Rec Centre and Launch Road Roundabout\Drawings\D1B190820 - Launch Rd Roundabout Concept.dwg vj 20/08/2019 3:59 pm

vehicle tracking key:

- vehicle chassis outline (forwards)
- vehicle chassis outline (reverse)
- overhang of vehicle (forwards)
- overhang of vehicle (reverse)
- 500mm clearance (forwards)
- 500mm clearance (reverse)

vehicle specs:



14.2m Car with Trailer

vehicle width: 2.50m
lock to lock time: 4.00s
track width: 2.40m
turning radius: 5.95m
vehicle speed: 5-10kmph

Not to Scale

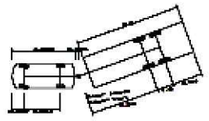
NOT FOR CONSTRUCTION

AT - 85th - Car with Caravan

vehicle tracking key:

- vehicle chassis outline (forwards)
- vehicle chassis outline (reverse)
- overhang of vehicle (forwards)
- overhang of vehicle (reverse)
- 500mm clearance (forwards)
- 500mm clearance (reverse)

vehicle specs:



14.2m Car with Trailer

vehicle width: 2.50m
lock to lock time: 4.00s
track width: 2.40m
turning radius: 5.95m
vehicle speed: 5-10kmph

Not to Scale

NOT FOR CONSTRUCTION

0 8m

4 of 4 sheets

scale:	1:200 A3	design:	rb
date:	17/07/2019	drawn:	rb
ref:	hlco 052	checked:	lb

status	issued
a	17/07/2019
b	20/08/2019

Launch Road Roundabout - Catalina Bay
Row Boat Trailer Tracking

flow
TRANSPORTATION SPECIALISTS
Level 1, 11 Blake Street, Ponsonby, Auckland | PO Box 47497 Ponsonby
p 09 970 3820 | f 09 970 3890 | www.flownz.com

APPENDIX 19
CIVIL INFRASTRUCTURE ASSESSMENT

TECHNICAL MEMO – TM-001
MARINE RECREATION CENTRE

Civil Infrastructure Assessment
Kāinga Ora - Homes and Communities

TO:	Rachelle Raw & Erin Taylor	**HG PROJECT NO:**	1020-143449-01
FROM:	Daniel Reddy	**DATE:**	November 2019

INTRODUCTION

Harrison Grierson has been engaged by Kāinga Ora to undertake an assessment from a civil engineering perspective of the proposed new marine recreation centre at the corner of Launch Road and Boundary Road at Hobsonville Point.

This memo describes the suitability of surrounding infrastructure to service the proposed development

EXISTING SITE

The site is located on the corner of Boundary Road and Launch Road at Hobsonville. It is located immediately south of the existing roundabout on Launch Road.

PROPOSED DEVELOPMENT

Kāinga Ora wish to develop the site into a new marine recreational centre for yachting and rowing activities. The new building facility will be substantially founded on piles and placed over the foreshore. The development also includes timber decking, a jetty and floating pontoons.

ACCESS

No permanent vehicular access is proposed to the site. Boundary Road currently functions as a pedestrian coastal walkway as well as vehicles for the maintenance of Bomb Point. The entry to the site on Boundary Road will have bollards to prevent vehicular access. The bollards are removable to allow access for the occasional deliveries.

STORMWATER

Increased stormwater runoff will be generated in rainfall events as result of the new impervious surfaces. As the site is essentially on the foreshore, there will be no downstream network capacity or flooding issues created by the development. The proposed roofing materials are considered inert therefore it will not produce significant contaminant loads. Similarly, the external impervious will be a mix of timber decking and concrete surfaces which will not be subject to vehicular traffic therefore will not be producing any significant contaminant loads. As such stormwater quality treatment will not be required for this development.

Stormwater generated by roofs will be captured and conveyed by a new private network to a new public line extended from existing drainage lines located at the bottom of Launch Road. Refer to the Dwg. 400 for preliminary stormwater drainage arrangement.

WASTEWATER

The proposed development will generate the following wastewater flows based on Watercare's Wastewater Code of Practice (Table 5.1.4):

TABLE 1: WASTEWATER LOADS

Landuse	Floor Area	Flow Allowance (L/m^2/day)	ADWF	PDWF	PWWF
	(m^2)	Light Water User	(L/s)	(L/s)	(L/s)

REC Centre	2020	4.5	0.11	0.55	0.74

As demonstrated in the table above, the worst-case scenario produces flows less than 1.70 L/s which is considered very minor. The minimum public pipe size at the minimum grade is capable of conveying 14L/s. Therefore, it is expected that the public wastewater line will have ample capacity to cater for the proposed development.

Wastewater flows generated from the new building will be captured and conveyed by a new private network to a new DN150 public line extended from the Catalina Bay development. Refer to the Dwg. 400 for preliminary wastewater drainage arrangement.

WATER SUPPLY

Water supply for the proposed development will be provided by constructing an extension of the existing DN180 network on Launch Road. A DN100 line will be extended from the existing network to the new building a service connection for the development. An internal private network will supply water to the building. Refer to Dwg. 400 for preliminary water supply arrangement.

The proposed development will generate demand for the following potable water supply based on Watercare's Water Supply Code of Practice (Table 5.1.4):

TABLE 2: WATER DEMAND- POTABLE

Landuse	Floor Area	Flow Allowance (L/m²/day)	Routine Daily Peak
	(m²)	**Light Water User**	**(L/s)**
REC Centre	2020	4.5	0.11

As demonstrated in the table above, the worst-case scenario produces potable demand flows less than 0.11 L/s which is considered very minor.

Flow rates and pressures were tested at nearby hydrants to confirm that the available flow rate and pressure in the adjacent public network is sufficient for both potable and firefighting needs.

Generally, the fire water demand will govern water supply requirements and given the DN180 watermain on Launch Road, it is not envisaged to be problem. However, if testing shows that fire water demand cannot be met, then a fire engineer can determine details of an onsite private fire water supply and firefighting management systems during the building consent phase. Potentially sea water could be used as a source for fire water during emergency events.

UTILITY SERVICES

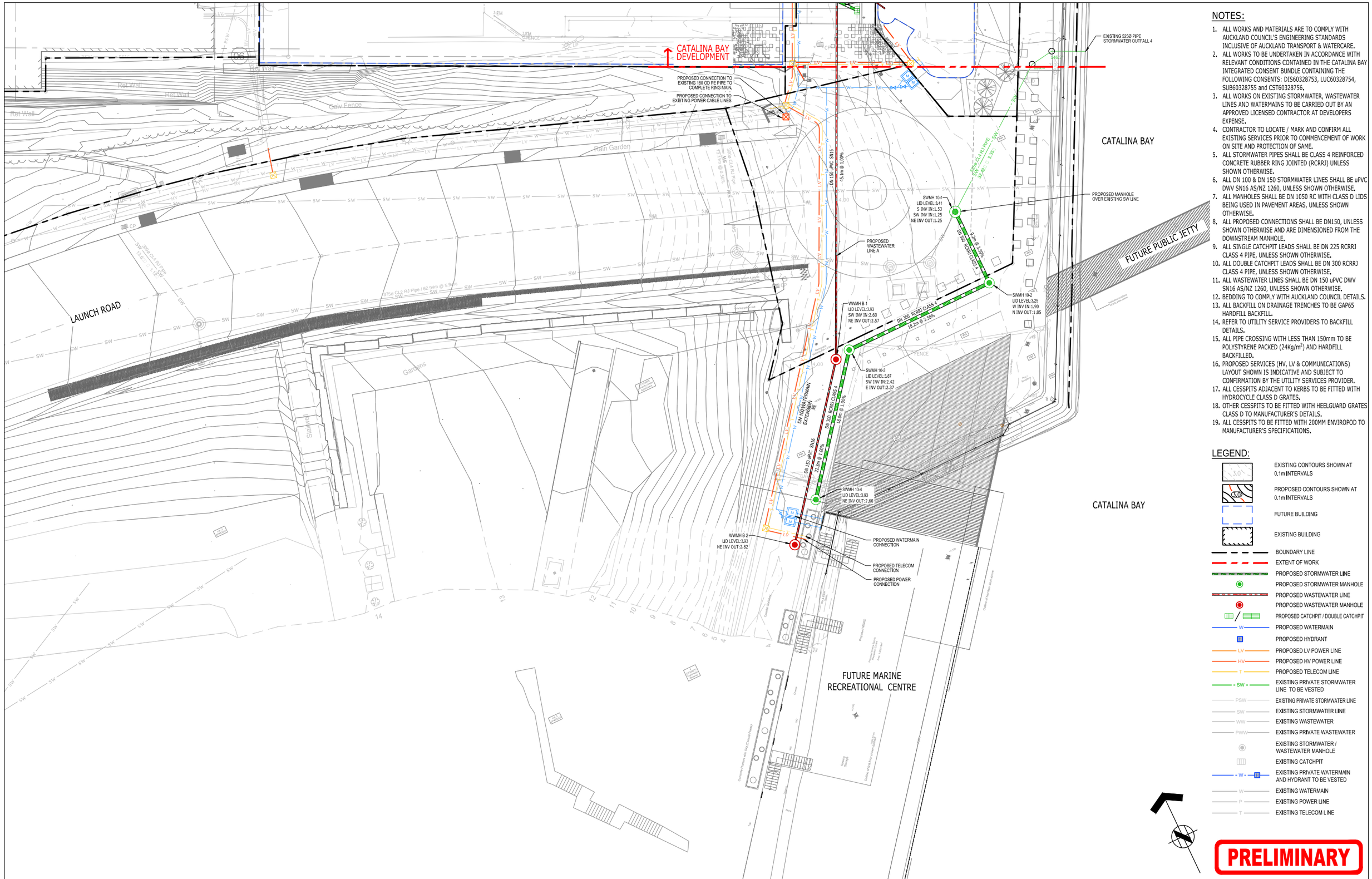
Power and telecommunications lines will be extended from existing networks on Launch Road to service the new building. Refer to the Dwg. 400 for preliminary utility services arrangement.

CONCLUSION

Based on assessment from a civil engineering perspective and conceptual design, it is considered that feasible solutions for infrastructure upgrades are available to enable the serviceability of the site for vehicular access, parking, stormwater, wastewater, water supply and utilities to ensure that the proposed development will be fit for purpose.

Note: All components of the infrastructure assets will be further developed in accordance with standards and requirements of Auckland Code of Practice for Land Development and Subdivision, Watercare Code of Practice, SNZ PAS 4509:2008 New Zealand Fire Service Firefighting Water Supplies Code of Practice and the New Zealand Building Code.

PRELIMINARY SERVICES PLAN



NOTES:

1. ALL WORKS AND MATERIALS ARE TO COMPLY WITH AUCKLAND COUNCIL'S ENGINEERING STANDARDS INCLUSIVE OF AUCKLAND TRANSPORT & WATERCARE.
2. ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH RELEVANT CONDITIONS CONTAINED IN THE CATALINA BAY INTEGRATED CONSENT BUNDLE CONTAINING THE FOLLOWING CONSENTS: DIS60328753, LUC60328754, SUB60328755 and CST60328756.
3. ALL WORKS ON EXISTING STORMWATER, WASTEWATER LINES AND WATERMAINS TO BE CARRIED OUT BY AN APPROVED LICENSED CONTRACTOR AT DEVELOPERS EXPENSE.
4. CONTRACTOR TO LOCATE / MARK AND CONFIRM ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK ON SITE AND PROTECTION OF SAME.
5. ALL STORMWATER PIPES SHALL BE CLASS 4 REINFORCED CONCRETE RUBBER RING JOINTED (RCRRJ) UNLESS SHOWN OTHERWISE.
6. ALL DN 100 & DN 150 STORMWATER LINES SHALL BE uPVC DWV SN16 AS/NZ 1260, UNLESS SHOWN OTHERWISE.
7. ALL MANHOLES SHALL BE DN 1050 RC WITH CLASS D LIDS BEING USED IN PAVEMENT AREAS, UNLESS SHOWN OTHERWISE.
8. ALL PROPOSED CONNECTIONS SHALL BE DN150, UNLESS SHOWN OTHERWISE AND ARE DIMENSIONED FROM THE DOWNSTREAM MANHOLE.
9. ALL SINGLE CATCHPIT LEADS SHALL BE DN 225 RCRRJ CLASS 4 PIPE, UNLESS SHOWN OTHERWISE.
10. ALL DOUBLE CATCHPIT LEADS SHALL BE DN 300 RCRRJ CLASS 4 PIPE, UNLESS SHOWN OTHERWISE.
11. ALL WASTEWATER LINES SHALL BE DN 150 uPVC DWV SN16 AS/NZ 1260, UNLESS SHOWN OTHERWISE.
12. BEDDING TO COMPLY WITH AUCKLAND COUNCIL DETAILS.
13. ALL BACKFILL ON DRAINAGE TRENCHES TO BE GAP65 HARDFILL BACKFILL.
14. REFER TO UTILITY SERVICE PROVIDERS TO BACKFILL DETAILS.
15. ALL PIPE CROSSING WITH LESS THAN 150mm TO BE POLYSTYRENE PACKED (24Kg/m^3) AND HARDFILL BACKFILLED.
16. PROPOSED SERVICES (HV, LV & COMMUNICATIONS) LAYOUT SHOWN IS INDICATIVE AND SUBJECT TO CONFIRMATION BY THE UTILITY SERVICES PROVIDER.
17. ALL CESSPITS ADJACENT TO KERBS TO BE FITTED WITH HYDROCYCLE CLASS D GRATES.
18. OTHER CESSPITS TO BE FITTED WITH HEELGUARD GRATES CLASS D TO MANUFACTURER'S DETAILS.
19. ALL CESSPITS TO BE FITTED WITH 200MM ENVIROPOD TO MANUFACTURER'S SPECIFICATIONS.

LEGEND:

- EXISTING CONTOURS SHOWN AT 0.1m INTERVALS
- PROPOSED CONTOURS SHOWN AT 0.1m INTERVALS
- FUTURE BUILDING
- EXISTING BUILDING
- BOUNDARY LINE
- EXTENT OF WORK
- PROPOSED STORMWATER LINE
- PROPOSED STORMWATER MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED CATCHPIT / DOUBLE CATCHPIT
- PROPOSED WATERMAIN
- PROPOSED HYDRANT
- PROPOSED LV POWER LINE
- PROPOSED HV POWER LINE
- PROPOSED TELECOM LINE
- EXISTING PRIVATE STORMWATER LINE TO BE VESTED
- EXISTING PRIVATE STORMWATER LINE
- EXISTING STORMWATER LINE
- EXISTING WASTEWATER
- EXISTING PRIVATE WASTEWATER
- EXISTING STORMWATER / WASTEWATER MANHOLE
- EXISTING CATCHPIT
- EXISTING PRIVATE WATERMAIN AND HYDRANT TO BE VESTED
- EXISTING WATERMAIN
- EXISTING POWER LINE
- EXISTING TELECOM LINE

PRELIMINARY

REF	REVISIONS	BY	DATE
A	PRELIMINARY DESIGN	WLA	26.11.2019

ORIGINATOR: DER | DATE: NOV 2019 | SIGNED: | PLOT BY: DER
DRAWN: WLA | DATE: NOV 2019 | SIGNED: | PLOT DATE: 27.11.19
CHECKED: DER | DATE: NOV 2019 | SIGNED: | SURVEY BY: -
APPROVED: DER | DATE: NOV 2019 | SIGNED: | SURVEY DATE: -

ASSOCIATION OF CONSULTING ENGINEERS NEW ZEALAND

ISO 9001 QUALITY ASSURED

AUCKLAND AIRPORT OFFICE
LEVEL 4, QUAD 5 4 LEONARD ISITT DRIVE
MANUKAU AUCKLAND 2022
T +64 9 966 3380
W www.harrisongrierson.com

PROJECT: Kāinga Ora Homes and Communities

TITLE: MARINE RECREATIONAL CENTRE PROPOSED DRAINAGE AND SERVICES PLAN

ISSUE STATUS: PRELIMINARY DESIGN

PROJECT No: 1020-143449-01 | SCALES: 1:200 - A1, 1:400 - A3 | A1

DRAWING No: 143449-01-400 | REV A

REFER TO APPROVED MASTER DRAWINGS FOR ORIGINAL SIGNATURES File: MANUKAU \\HARRISONGRIERSON.COM\HGDATA\NEWMARKET\SHARES\JOBS\1020\143449_A\CAD\03 SHEETS\143449-01-400.DWG

PROPOSED ARCHITECTURAL PLANS

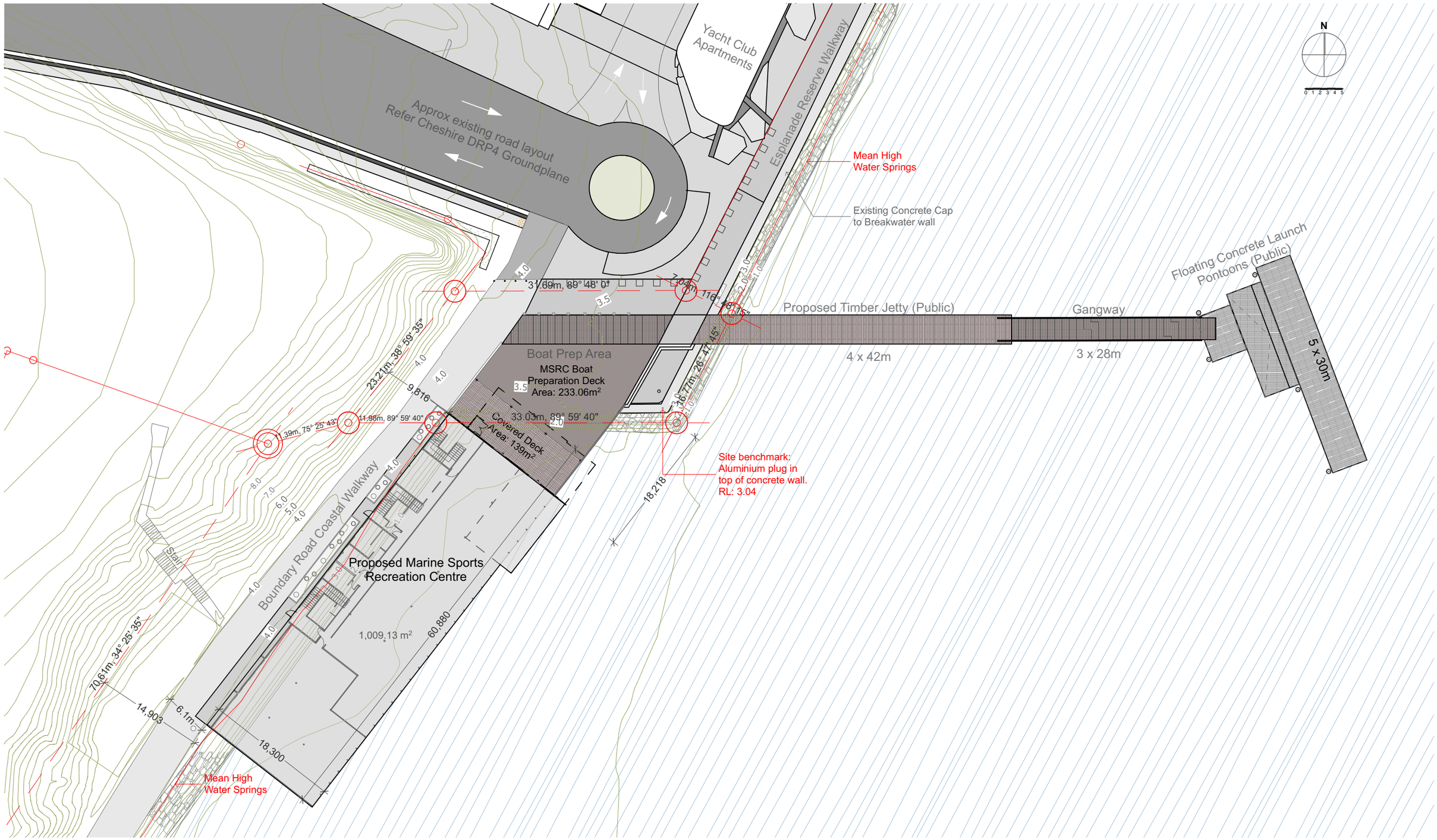
No.	Rev	Sheet Name
Set RC Resource Consent Set		
RC01		Title Page
RC02		Site Plan
RC03		Forecourt Plan
RC04		Foundation and Earthworks Plan
RC05		Jetty Foundation Plan
RC06		Ground Floor Plan
RC07		Upper Floor Plan
RC08		Building Elevations
RC09		Building Elevations II
RC10		Jetty
RC11		Site - AUP Zoning Plan

Strachan Group Architects

Studio
26 Rossmay Terrace, Kingsland
Auckland 1024, New Zealand
Postal
PO Box 26-038, Epsom
Auckland 1344, New Zealand

Contact
info@sgaltd.co.nz
+64 9 638 6302
www.sgaltd.co.nz

Client	Project Name / Location	Rev	ID	Description	Date	Drawing Title	Created	Stage	Drawing Number
HLC	Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point					Title Page	2/09/19	Resource Consent Application	RC01
Project No. 1852							**Page** 1 of 11	**Scale** at A3	**Revision Number**



Studio 26 Rossmay Terrace, Kingsland Auckland 1024, New Zealand **Postal** PO Box 26-038, Epsom Auckland 1344, New Zealand **Contact** info@sgaltd.co.nz +64 9 638 6302 www.sgaltd.co.nz **This drawing is copyright SGA Limited 2002**	**Client** HLC **Project No.** 1852	**Project Name / Location** Marine Sports Recreation Centre, Boundary Road, Catalina Bay, Hobsonville Point	**Rev**	**ID**	**Description**	**Date**	**Drawing Title** Site Plan	**Created** 2/09/19 **Page** 2 of 11	**Stage** Resource Consent Application **Scale** 1:500 at A3	**Drawing Number** RC02 **Revision Number**

Strachan Group Architects