



PEER REVIEW
CLYDE QUAY BOAT HARBOUR MASTERPLAN

Prepared for:

Wellington City Council

Completed by:

Wardale Marine Industry Consulting

January 2013

CONTENTS

1	Executive Summary	5
1.1	Introduction	5
1.2	Analysis	5
1.3	Key Concerns and Risks	5
1.4	Recommendations.....	6
2	Introduction	7
2.1	Scope	7
2.2	Approach.....	7
2.3	Limitations and Assumptions	8
2.4	Background.....	8
3	Masterplan	10
3.1	Overview.....	10
3.2	Water Based Components	10
3.3	Land Based Components	20
3.4	Other Considerations	28
3.5	Key Recommendations	29
3.6	Wellington Ocean Sports and “Powered by the Wind” Education centres	30
4	Demand and Pricing	31
4.1	Introduction	31
4.2	Vessel Trends	31
4.3	Demand for Marina Berths	32
4.4	Marina Berth Availability	33
4.5	Berth Sizes	33
1.1	Licence Fees & Rental Rates	39
5	Maintenance.....	41
5.1	Business Case & Current Situation	41
5.2	Marina pontoons	42
6	Management	43
6.1	WCC Management	43
6.2	Business Plan Proposal	43
6.3	Alternative Ownership And Management Models	44

6.4	Potential Risks	47
6.5	Alternatives & Recommendations	47
7	Financial Review	49
7.1	Berth Numbers	49
7.2	Revenue and Pricing	50
7.3	Occupancy	51
7.4	Expenses	51
7.5	Contingencies	52
7.6	Public Amenity.....	53
7.7	Conclusion	53
8	Economic benefit	54
8.1	Economic Impact report	54
8.2	Recommendations.....	54
9	Key Risks	56
10	Recommendations	59
	Appendix A: Masterplan.....	61
	Appendix B: Marina Berth Count by Berth Length.....	62
	Appendix C: Monthly Rental and Licence Fees (as at November 2012).....	63
	Appendix D: Risks recorded by RPNYC in Draft paper to WCC SPC Feb 2013	64
	Appendix E: Economic Impact Report - review questions and comments.....	66

REFERENCES

Australian Marina Standards - AS 3962-2001

Clyde Quay Boat Harbour Conservation Plan, 6th May 2005

Clyde Quay Boat Harbour Development – Concept Review, 6th Oct 2011

Clyde Quay Boat Houses – Site History & Environmental Assessment – May 2000

“CQBH Master Plan Estimate of Costs (Draft 2011 11 02)” – Excel File

February 2012 Report to Wellington City Council Strategy and Policy Committee on the Masterplan proposal

March 2011 Report to Wellington City Council Strategy and Policy Committee on the Masterplan proposal

Masterplan – Clyde Quay Boat Harbour Restoration Masterplan Appendix A

Masterplan – Clyde Quay Boat Harbour Restoration Project Masterplan (RPNYC)

Marinas Asset Management Plan 2012/13 – 2022/23

Memorandum of Understanding – Wellington City Council and Royal Port Nicolson Yacht Club, 2006

RPNYC Statement of Intent 2009 – 2015

RPNYC – One Hundred Years 1998 - 1983

RPNYC Report “Clyde Quay Boat Harbour Restoration Project” Draft dated 30th Oct 2012

RPNYC Report “Draft Wellington Yachting Strategy Economic Impact Summary”

Royal Port Nic Café – Strategic Analysis, Nov 2009

Wellington Yachting Strategy economic impact spreadsheet (draft)

1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This report provides a critical review of the draft Clyde Quay Boat Harbour Restoration Project Masterplan for the purpose of assisting Wellington City Council in its 2013/14 Draft Annual Plan deliberations.

The primary aim of the Masterplan is to:

- Improve public amenity, accessibility and heritage in and around the Marina and yacht club
- Provide an improved and upgraded marina
- Provide an events and social venue at the harbour's edge
- Consider the inclusion of a new Ocean Water Sports and "Powered by the Wind" Education centre.

1.2 ANALYSIS

In forming our recommendations the following analysis has been completed:

- Detailed review of the physical design and layout of both the land and water-based proposals included in the Masterplan, including identification of associated concerns and risks, and consideration of industry best practice
- Assessment of likely demand and pricing for the proposed marina berths
- Comparison of the proposed management model against alternative models
- Assessment of long term maintenance implications
- Review of the financial model
- Review of the economic benefits
- Assessment of key risks and mitigation

The analysis carried out involved a review of the Masterplan and associated documents, interviews with relevant Council and industry personnel and collection of comparative data from other marinas.

1.3 KEY CONCERNS AND RISKS

Key risks associated with the Masterplan proposal include:

- Wave effects and/or mitigation costs are underestimated
- Marina berth mix does not align with demand in the short and/or the long term
- A variety of Masterplan options have not been considered
- Marina berth rental rates used within the financial model are too aggressive
- Implementation of new management model produces undesirable outcomes
- Public and/or marina user opposition to the proposal, including the significant proposed increase in fees / Resource Consents are declined

1.4 RECOMMENDATIONS

This report has made a number of recommendations, most of which relate to a host of preliminary works that we consider must be completed prior to any preferred Masterplan including a variety of Marina layouts being further considered by the Council for the precinct.

The report has recommended that there are some alternative Masterplan boat harbour layouts and designs (some basic examples have been provided) that would allow the Council the assurances it requires that the final design put to Council for approval is the most appropriate and exemplar use of the water-space for the next phase of the boat harbour's life as a recreational boat harbour.

In particular, this review has taken the position that the retention and redevelopment of the fore and aft moorings – that have been in place within the boat harbour since its construction – will carry too great a risk and limit the harbour's full potential in the medium to long term.

As we have identified complications that may arise when only the management of Clyde Quay boat harbour is assigned to others and we recommend that future management and/or ownership options for both WCC facilities are considered that includes not just Clyde Quay boat harbour but Evans Bay Marina.

Given the importance of the decision to the future success of the marina, prior to implementing any moves to change the existing management, some further careful consideration and a full risk assessment will need to be completed.

Regardless of the outcome of any decision to subcontract the management of Clyde Quay boat harbour to others, the existing licence fees that do not vary depending upon the length of the occupying vessel should be phased out to become more in line with industry best practice.

Our review of the financial model focused on the aggressive increases in licence fees and suggested that compounding licence fee increases across the first 10 years may need to be reconsidered considering the risks associated with such large increases. An alternative masterplan with a new berth layout may assist in lowering the associated risks. We also suggest a refined review of suitable contingencies for such a marine project at this early stage.

It is with these views in mind that the report suggests that further detailed analysis, design and Master planning works should be commissioned prior to the final completion of the business case for this important jewel in Wellington's waterfront.

2 INTRODUCTION

This report was commissioned by Wellington City Council (WCC or Council) to review the draft Clyde Quay Boat Harbour Restoration Project Masterplan (the Masterplan) as prepared by the Royal Port Nicholson Yacht Club (RPNYC) in conjunction with WCC. A critical review is required by WCC as some components of the Masterplan will be included for consideration as part of the 2013/14 Draft Annual Plan deliberations.

2.1 SCOPE

The agreed scope of this report is to confirm that:

- the business case for the redeveloped marina and its associated management is financially sound
- there is demand for the type of facility proposed within the plan and its associated pricing is appropriate for the region
- the future long-term maintenance and management of the marina has been considered and is in the best interest of all stakeholders
- all risks associated with this project have been considered and identified by the proposal
- the economic benefits and the associated benefits are appropriate and realistic for the redevelopment
- the Masterplan will deliver a facility that is in line with best industry practice and is exemplar in its overall delivery.

The report also includes an assessment of the future opportunities for the management of the facility and how the proposed model compares to other models including the existing Council managed model.

2.2 APPROACH

This review commenced with a thorough review of all documents provided by WCC and RPNYC (The Club) including the Masterplan, various reports to Council and the economic impact assessment of the Marina redevelopment.

Comparative information and data was collected from marinas within the region, which included discussions with marina staff at Seaview Marina, Chafers Marina, Mana Marina and Marlborough Sounds Marinas.

The data generally collected from these facilities included rental rates, occupancy rates, waitlist details, occupancy forecasts, key regional trends and other relevant information. The collection of

data has been used to assess the demand for the type of moorings and berths proposed within the Clyde Quay Masterplan.

Discussions with WCC staff have focused on an understanding of the history of the project. Council staff have also assisted in providing an understanding of occupancy levels and associated demand for moorings at Clyde Quay boat harbour along with Council's other local facility; Evans Bay Marina.

Interviews have been completed with a variety of WCC officers as well as the CEO and past and current committee members of the RPNYC.

2.3 LIMITATIONS AND ASSUMPTIONS

Many years of discussion, negotiations and planning have produced the current Masterplan for the boat harbour. A number of individuals have contributed to the Masterplan including Council officers (past and current) plus a variety of past and current club and committee members over the years. We consider the plan to be a high level plan where limited to no detailed design has been completed for much of the plan.

Whilst conducting this review it has also become apparent that there are several current versions of the Masterplan in existence. The version used in this review and attached as Appendix A is understood to be most recent plan. However, as the plan is still a work in progress, discussions with the Club indicate that some additional modifications have been developed by RPNYC. Some of these variations have already been included in the associated financial modelling but are not currently drawn on the official Masterplan. This report highlights these variations where appropriate and recommends that the various documents be updated by mutual agreement.

This review has been completed within a relatively tight timeframe, during which a variety of supporting documents were presented by the Club, some with more recent ideas, and some which updated previous plans. Where we have identified contradictions that are important to the project we have noted them within this report.

Political considerations, including the likely political response to the recommendations made, have not been addressed in this report.

2.4 BACKGROUND

The Clyde Quay Boat Harbour is made up of 50 boatsheds and a total of 72 fore and aft moorings which are protected by two concrete sea walls. There has been very little change to the way vessels have been moored within the boat harbour over the last century.

The RPNYC owns its clubhouse building in the centre of the boat harbour zone and the RPNYC Sailing Academy building at the northern end (the club leases the land on which the clubhouse and Sailing Academy are situated on from Council). Two buildings adjacent to the Sailing Academy, called the Coene buildings are owned by WCC and leased to the RPNYC. In addition the club leases three of the boatsheds from the WCC.

The RPNYC has recently installed a number of floating finger jetties outside the Sailing Academy and they have recently completed an extension to a decked area outside their clubhouse.

In 2006, the Mayor of WCC and RPNYC signed a memorandum of understanding (MOU). One of the objectives was to prepare a Masterplan for the redevelopment and upgrading of the boat harbour. Under the MOU, WCC and RPNYC are to jointly consider the on-going management and maintenance of the Clyde Quay Boat Harbour.

In June 2012 Wellington City Council approved the following resolution in respect to the Clyde Quay Boat Harbour redevelopment proposal:

- (a) *Clyde Quay Boat Harbour*
- (i) *Agree to the proposed expenditure on public space works for Clyde Quay, as proposed in the draft 2012-22 Long-Term Plan*
- (ii) *Instruct officers to prepare a report on the scope of a feasibility study for Clyde Quay Restoration Master Plan, and report back the Strategy and Policy Committee in December 2012. Note that this will include the management and marina upgrade business case, agreed by committee on 16 February 2012*
- (iii) *Note that any costs associated with preparing the Clyde Quay feasibility study will be a matter for consideration in the 2013/14 Draft Annual Plan*
- (iv) *Agree to section 6.1 Urban Planning, Heritage and Public Space Development (key projects and proposals) of the long-term plan being updated under Clyde Quay Marina with, "During 2012/13 we will consider the scope of a feasibility study for the Clyde Quay Restoration Plan, including the management and marina upgrade business case. Council has been working in partnership with the Royal Port Nicholson Yacht Club on the development of a long term master plan for Clyde Quay. The master plan aims to:*
- *improved public amenity, accessibility, and heritage celebration*
 - *an events and social venue at the harbour's edge*
 - *an upgraded marina*
 - *a new Ocean Water Sports and "Powered by the Wind" Education centres*

3 MASTERPLAN

3.1 OVERVIEW

The primary aim of the Masterplan is to:

- Improve public amenity, accessibility and heritage in and around the Marina and yacht club
- Provide an improved and upgraded marina
- Provide an events and social venue at the harbour's edge
- Consider the inclusion of a new Wellington Ocean Sports Centre and "Powered by the Wind" education centre.

This section of the report has divided the review of the Masterplan into two distinct areas:

- **Water Based** – below mean high water (falls within jurisdiction of the Greater Wellington Regional Council)
- **Land Based** – above high water (owned by WCC)

Combined, this includes all areas within the area known as Clyde Quay Boat Harbour.

For each of the physical aspects of the boat harbour within each area, the Masterplan proposal has been described and associated review comments and recommendations have been made. This includes identification of key issues, risks and other relevant considerations including industry best practice.

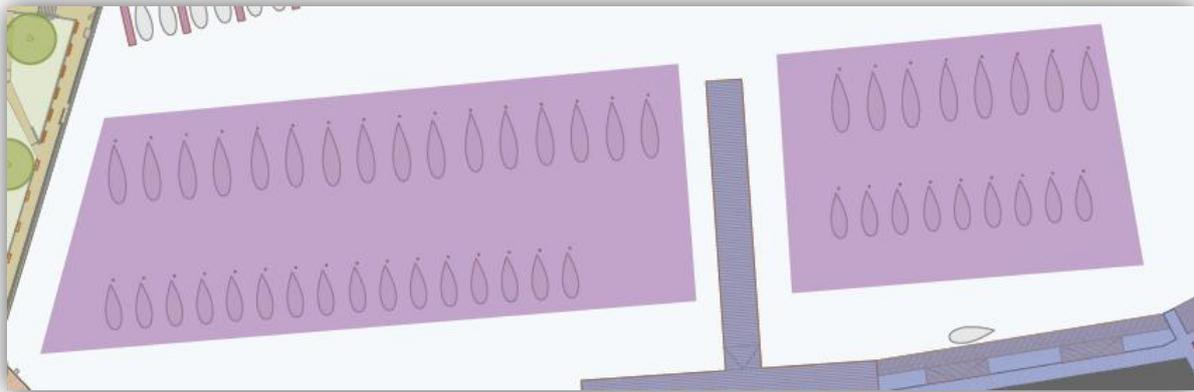
3.2 WATER BASED COMPONENTS

The Masterplan looks to redevelop the boat harbour's mooring stock into a variety of different mooring and berthing types.

3.2.1 FORE & AFT MOORINGS

Masterplan Proposal:

It is proposed that a number of fore and aft moorings that currently exist within the harbour will remain and be redeveloped. Their proposed general location is similar to the existing location, with the moorings distributed over two rows running east to west across the boat harbour as shown in Figure 1 below.

Figure 1: Fore & Aft Moorings within the Masterplan

Although the fore and aft moorings are located in essentially the same location as they are today, they have been split by the introduction of a new structure described within the Masterplan as a “Central Pontoon”.

In total, the Masterplan shows an indicative 17 moorings to the east of the central plaza jetty, with a further 32 to the west of the plaza. This provides a total of 49 moorings within the central boat harbour area.

The new layout provides for the following vessel numbers by size:

Table 1: Proposed vessel numbers by size

Vessel Size	Number	Mooring Location
< 8m	9	Eastern Side
< 8m	16	Western Side
8.5m - 11m	8	Eastern Side
8.5m - 11m	16	Western Side
Total	49	

Review Comments:

We are of the opinion that the retention of fore and aft moorings within Clyde Quay Boat Harbour should be reconsidered as we consider that this style of mooring is dated and has become less favoured, particularly within central city areas where more modern moorings systems provide:

- Higher levels of available water space utilisation
- More protected spaces for the vessels
- Easier access and walk on opportunities
- Removal of the associated need for dinghy storage racks for access to the moorings

We understand that possibly the primary motivator for the retention of this type of mooring system in approximately the same location as the existing moorings is due to a RPNYC view that there are some historic protections preventing the historic mooring layout from being removed from the Boat Harbour. We note the Conservation Plan gave the fore and aft moorings a medium historic and Social value, but a low aesthetic and scientific value which resulted in an overall low heritage value.

Whilst we don't doubt the current mooring layout has become synonymous of the mooring style at Clyde Quay since the boat harbour's construction (see Figure 2 below), we are unable to support the retention of the existing moorings in a Masterplan which attempts to provide sustainable long term options for the boat harbour.

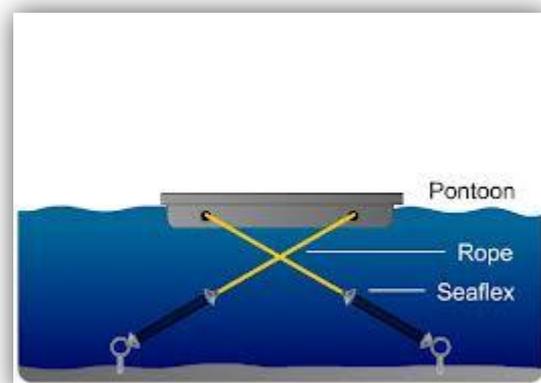


Figure 2: Clyde Quay Boat Harbour soon after its construction in 1905 showing two rows of moorings
As discussed later in this section, we believe that the moorings currently occupy a location within the boat harbour that would be better suited to use by marina berths.

3.2.2 GROUND TACKLE

Masterplan Proposal:

The proposed Masterplan includes a proposal to replace all of the existing mooring blocks used for the two rows of fore and aft moorings described in the section above with a more modern solution branded Seaflex™. A diagram of a Seaflex™ system is shown here. *Note this image shows a pontoon rather than a moored vessel connected to the Seaflex™.* The system involves screwing anchors into the sea floor and attaching a rubber suspension system to the ground anchor which is then attached to the moored vessel. Such a system would replace the existing mooring blocks.



Currently, the licensed mooring holders within the boat harbour own their own mooring blocks on the sea floor, along with the chain and rope mooring system connected to their vessels. When a mooring licence agreement ceases and a new tenant takes up a licence within the boat harbour, the associated mooring system is transferred between the previous and new tenant prior to the new licence commencing. We understand that this transfer includes a financial transaction between both parties based upon market or perceived value.

We understand that the existing licence agreements require the various owners to undertake regular safety and condition assessments of their mooring systems. We have not investigated compliance with this requirement but understand that some licence holders are said to be non-compliant.

The Masterplan also makes reference to the need to remove from the sea floor, a number of historic abandoned mooring blocks. We understand that some of these mooring blocks have been there for some time and some are considered a navigational hazard for the deeper vessels currently using or visiting the boat harbour.

Review Comments:

Seaflex™ systems do not have widespread use in marinas in New Zealand. One of the two primary pontoon manufacturers has recently delivered one single pontoon installation to Christy's Bay in the Marlborough Sounds which used Seaflex™ as shown in the photo to the right. However, no marina operators have ever used it within any marinas or boat harbours. The installation in the Marlborough Sounds used a Seaflex™ system primarily due to the greater depth of water in the particular location. Seaflex™ systems have their benefits, however in most instances their upfront capital cost makes them less affordable when compared to other lower cost options available in the New Zealand market.



Should fore and aft moorings be included in any final plans for Clyde Quay Marina, Seaflex™ systems could be used to improve the utilisation of the available space, as the system assists to provide less vessel movements as compared to traditional chain anchor systems. In shallower areas when Seaflex™ is combined with ground anchors there is no large component of the system that protrudes much above the sea floor which minimises any deeper vessels from potentially hitting the equipment.

We support the removal of the existing abandoned mooring blocks that are said to be on the sea floor within the boat harbour. We do question the need for this activity to be part of the master planned redevelopment of the boat harbour as we consider that such removal should be part of the day to day management of the boat harbour. We consider that any known abandoned mooring blocks should be removed – without delay – from the harbour's seabed, particularly those that are considered a navigational hazard. We also recommend that more rigorous processes are put in place whereby the removal of historic mooring blocks are made compulsory when the relevant contractors operating within the harbour are undertaking removals or inspections. Future processes should also consider more regular seabed surveys to identify such hazards.

3.2.3 MARINA BERTHS – LAYOUT AND LOCATION

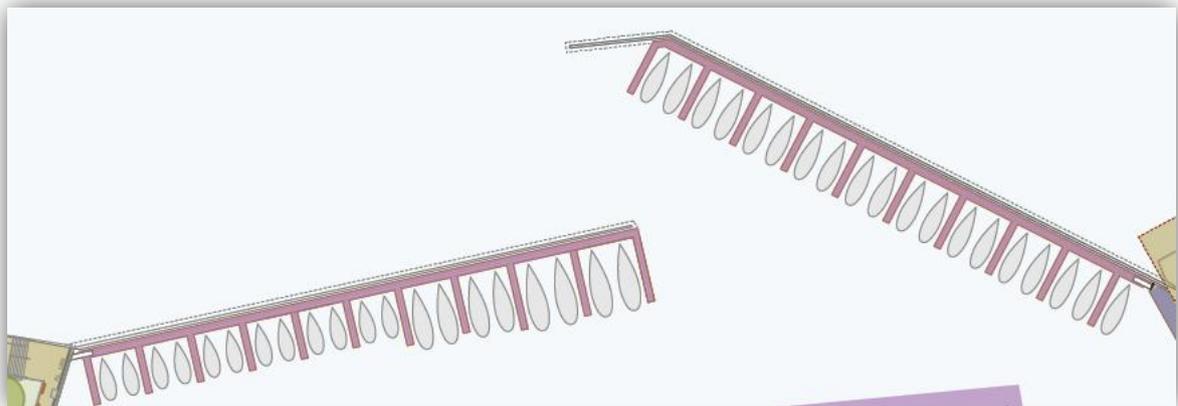
Masterplan Proposal:

The business case for the Marina considers a number of improvements in the layout and utilisation of the boat harbour and specifically looks to incorporate some modern walk-on floating pontoon berths. In addition, the Plan looks to retain a number of fore and aft moorings, in a similar location to the current moorings as noted in the previous section.

The plans for the location of the marina berths have considered the retention of the fore and aft moorings in approximately their historic location.

In total, the Plan includes 39 floating marina berths. All marina berths are immediately behind the fixed breakwater structures, with 20 behind the inner breakwater and 19 behind the outer breakwater as shown below in Figure 3.

Figure 3: The inner and outer breakwaters with marina berths shown inside



Although the final detailed design of the marina berths has not been considered at this time, there have been suggestions within some of the documents that a Seaflex™ ground anchoring system could be used for the marina berths within the boat harbour.

Whilst the background for the systems selection has not been detailed within the Masterplan, such systems are often selected either due to the presence of deep water or to minimise any visual impacts from a regular piled system that would extend above the pontoon system and potentially create an additional visual impact.

Review Comments:

We consider that the proposed layout for the marina berths within the boat harbour may not be the most appropriate reconfiguration of the limited boat harbour water space. We consider that the retention of the fore aft moorings in their historic location results in unnecessarily limited alternatives for more appropriate designed locations for new walk on marina berths.

We are particularly concerned that marina berths have been shown along the inside of the outer breakwater. We consider this location as the least attractive location to install prime modern pontoon systems partly due to its remote location, but mainly due to the wave climate that has been experienced within this area of the boat harbour.

We are concerned that without a protective breakwater or well-engineered wave attenuator, any floating pontoon berths within that zone will not structurally survive. In addition, vessels stored within these berths will be more prone to damage due to the new layout (as compared to the historic layout using fore and after mooring) improving space utilisation and accordingly providing less space between vessels.

We are also concerned that the Masterplan images do not show any new breakwater or wave attenuator structure. We are aware that the financial model has now included a provisional sum of \$100,000 that has been set aside for wave attenuation; however this sum is less than the original \$550,000 which was earmarked for the same purpose in earlier reports.

It is our opinion that, without expert knowledge of the nature of the wave that is being experienced within the boat harbour, that no marina berths should be considered within the boat harbour without a comprehensive wave study being completed. Beca's 2011 report also discussed this fact, and whilst anecdotal evidence suggests the current wave or wake is a wave being reflected from the passenger terminal, the true dynamics of the wave needs to be understood before this Masterplan can be assessed or the detailed design considered.

If the wave study concludes that the boat harbour does suffer from a detrimental wave, then the requirement for a breakwater or wave attenuator may make the inclusion of marina berths in their current locations unrealistic both financially and practically.

Financially, marina berths placed into a high wave climate will negatively impact on the financial model as the model will need to allow for much higher repairs and maintenance expense, as well as the likelihood that occupancy will be less due to their unattractiveness. Practically, the higher the wave climate within the marina, the greater the chance of vessel damage or wear and tear which results in a less attractive facility and product offering over those marina berths that are within a more sheltered environment.

In both instances, the marina berths have been shown to be hard up against the breakwater structures. As noted in the Beca report, careful considerations needs to be taken to minimise any opportunity to compromise the existing sea wall structures. Their report included general recommendations that any new structures are kept well away from the breakwaters. We also consider that prime berthing pontoons are less attractive to the users just inside a breakwater structure that produces significant splash of sea water across the pontoons and the berthed vessels.

We are concerned of any proposed use of a Seaflex™ system for the marina pontoons alongside the two breakwater structures. Aside from the likely higher costs of procurement, we are concerned that the systems' natural movement may allow the pontoons to make contact with the breakwater structures. This movement is only natural within the Seaflex™ system as the elasticated system is required to extend and contract to allow for the tidal changes. The remedy could be to locate the pontoon systems away from the seawall structures as recommended by Beca. However, when master planning a relatively small boat harbour, efficiencies of water-space are always key to the project's ultimate success. This point is made only if there are concerns regarding the visual impact of a new marina being built within the boat harbour.

As indicated further in this report, we consider that there are better alternative locations within the boat harbour for the placement of marina berths.

3.2.4 BERTH SIZE

The following section looks to address the marina berth lengths shown in the Masterplan.

Masterplan proposal:

Although there is limited design detail contained within the Masterplan, on some aspects of the boat harbour layout the exact berth length mix has been specified within the drawings.

In addition, pleasingly Council officers have confirmed that relevant Australian Marina Standards (AS 3962-2001) have been referenced in the design of berth widths and layout. In total there are 39 new marina berths shown. Table 2 below shows the total number of the various sized berths.

Table 2: Proposed Marina Berth sizes

Berth Size	Number	Location
12m	19	Eastern Boat Harbour
10m	12	Western Boat Harbour
12m	4	Western Boat Harbour
14m	4	Western Boat Harbour
Total	39	

As discussed in previous sections, the Masterplan includes two distinct areas of marina berths, one set behind the inner (western) breakwater and one set behind the outer (eastern) breakwater.

The berth mix that has been proposed and provided by the RPNYC is based upon a number of design considerations:

- Available remaining water space for the berths after consideration of the moorings retention
- The retention of the two rows of fore and aft moorings
- The water depth within the harbour and its limitation on vessel draft.

Review Comments:

It is our opinion that the assumption of needing to retain the two rows of moorings has driven the Masterplan's suggested berth size mix, as the remaining water space is limited. The Club has suggested that without further depth within the boat harbour, no vessels over 14m have been considered.

We understand that no recent seabed survey has been completed, nor has any maintenance dredging been completed for some time. We also understand that boat harbour users have suggested that the depth of the boat harbour has been reducing over a long period of time. Additionally, the abandonment of a number of mooring blocks and tackle has resulted in objects on the seafloor potentially accentuating the lack of depth within the boat harbour.

We consider that a full seabed survey of the boat harbour must be commissioned before further Masterplan work is completed. The scope of works should include comparison of historic survey data to show comparatives and to indicate areas of problem sedimentation levels. Receipt of a detailed seabed survey plan for the boat harbour will allow berth length mix to be reviewed and reconsidered.

Once the survey data is received, aspects of the Masterplan can be reconsidered including the relevant financial impacts of removing the accumulated sediment as well as assessing opportunities to dredge the boat harbour to a new design depth in certain areas within the harbour.

The opportunity to dredge areas of the boat harbour to a new design depth is very relevant when considering the likely demand for the marina berths throughout the life expectancy of a modern marina pontoon system which can be expected to have a useful life of between 30 and 50 years (refer section 4)

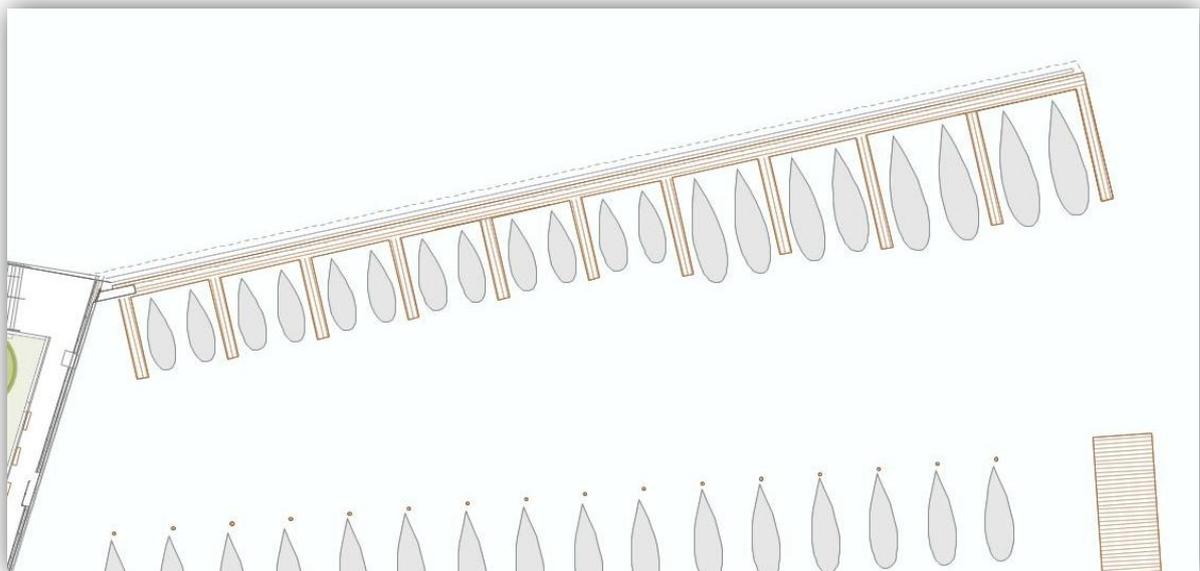
We also consider that the financial implications of any maintenance or capital dredging works cannot be considered without a full understanding of the makeup of the sea floor both within the boat harbour (including the investigation of any contaminants) and outside the harbour where any breakwater may be required to be constructed. We therefore support the commissioning of a comprehensive geotech study proposed within the overall Masterplan. This study should look at areas within the boat harbour and immediately outside the harbour to provide an understanding of the seabed composition should a fixed breakwater be required in the overall design.

3.2.5 MARINA BERTH FAIRWAYS

Masterplan proposal:

A “fairway” is the term given to the clear water space that a Marina user is provided to manoeuvre their vessel to and from their marina berth. The Masterplan includes a variety of fairway areas between the marina berths and the outer row of fore and aft moorings as shown in Figure 4 below.

Figure 4: Masterplan fairway example



Review comments:

In general, the proposed marina layout appears to provide the fairway width required by the Australian standards based upon 1.75 times the vessel length. However, in one area around the boat harbour entrance the width provided is non-compliant with the standards.



The standards do provide for the lessening of fairway widths in certain circumstances. However, as also noted within the Beca report we don't support such reduction in width.

Due to the exposed nature of this area of the boat harbour in general, and the known wave and wake conditions within the entrance area, it is suggested that any detailed design of the facility is modified to consider the standards.

3.2.6 ENTRANCE CHANNEL**Masterplan proposal:**

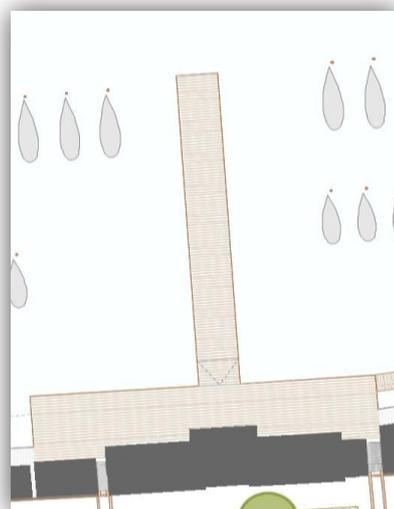
The entrance channel to the boat harbour is shown on the Masterplan to be 23m wide at its narrowest point.

Review comments:

Based upon the Australian standards, any entrance fairway and width should be no less than 1.5 times the length of the longest vessel using the boat harbour. Based upon the largest Marina berth being shown as 14m, the current entrance width is compliant subject to no vessels greater than 16m using the harbour with the shown entrance configuration.

3.2.7 PUBLIC PLAZA**Masterplan proposal:**

The set of Masterplan drawings reviewed as part of this report includes an area described as "Proposed new water level public plaza & jetty including public seating and shelter" as shown in the image to the right. The inclusion of this structure within the plans has required the removal of a small number of fore and after moorings from the boat harbour.



It is understood that the primary objective of the structure is to become the focal point of the boat harbour where the structure would be used by the following waterborne users:

- Visiting vessels
- Racing teams during events
- Mooring holders wishing to load or unload

Additionally, the structure is intended to be a focal point for the public to get up close to the water's edge and move between the adjoining deck space area and the plaza area.

Review comments:

The Masterplan drawings show this structure as a floating pontoon approximately 50m long by 6m wide, giving a total area of 300m². We believe that a pontoon of this size is generous in proportions, and note that in some artists' impressions, the same pontoon is shown closer to half this width. Should there be WCC support for a structure of this length then we believe the pontoon could suitably be provided with a width of around 3m.

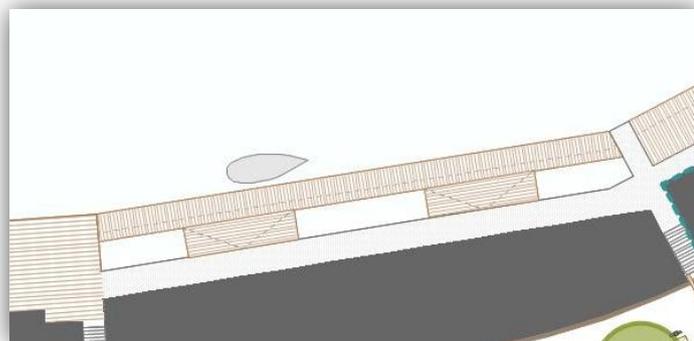
The pontoon is currently also shown to have fore and aft moorings positioned reasonably close to each side of the structure and based upon the Australian standards there should be 'fairway' space clear of these moorings to provide for safe manoeuvring to and from the new pontoon. Accordingly, if a modest fairway width was provided along both sides of a slightly narrower pontoon system, two moorings from the western side and two from the eastern side would need to be removed from the plans.

Based upon the proposed structure's significant use of water space within the boat harbour and the financial costs of its provision, we believe that there may be other design solutions that could be incorporated into a future design that could provide the uses that the RPNYC is promoting but at the same time allowing some of the costs to be absorbed into other areas within the facility.

3.2.8 BREASTWORK & PONTOONS SYSTEM

Masterplan proposal:

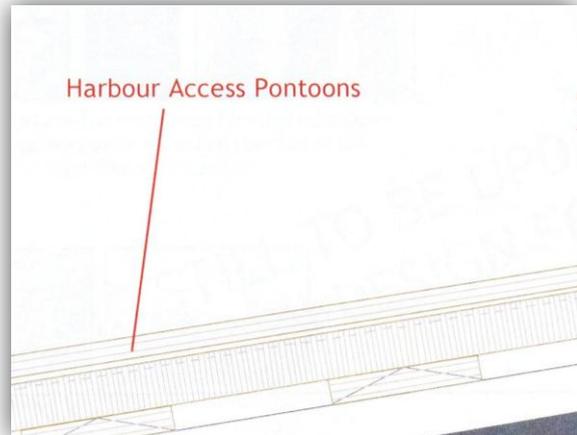
The Plan shows a variety of improvements to the existing breastwork which includes the replacement of the existing timber decking. The height of the decking above the water is increased and will also provide a better connection to the decking that is proposed to replace the current decking around the existing clubhouse.



Review comments:

We are aware that some subtle design changes have been made to the Masterplan we are reviewing by the RPNYC. These changes include a new provision of a floating pontoon system along the entire edge of the new decking which would remove the need for the replaced breastwork as shown in the images to the right, identified here as "Harbour Access Pontoon".

We consider this design change a logical improvement to the breastwork shown in the Masterplan. The added pontoon system will provide a long berthing area that could be used for events as well as a suitable location for the loading and unloading of licensed moored vessels.



3.3 LAND BASED COMPONENTS

3.3.1 INTRODUCTION

A variety of components of the Masterplan are focused on urban design improvements to improve the linkages to the Wellington waterfront promenade and to provide a safe and enjoyable place for people to escape to from the nearby waterfront.

The Masterplan includes a number of features specifically focused on improving the public amenity and accessibility in and around the boat harbour. These features include access to the lower level of the yacht club. This focus has also looked to consider and provide for the continuation and promotion of the heritage values of the site.

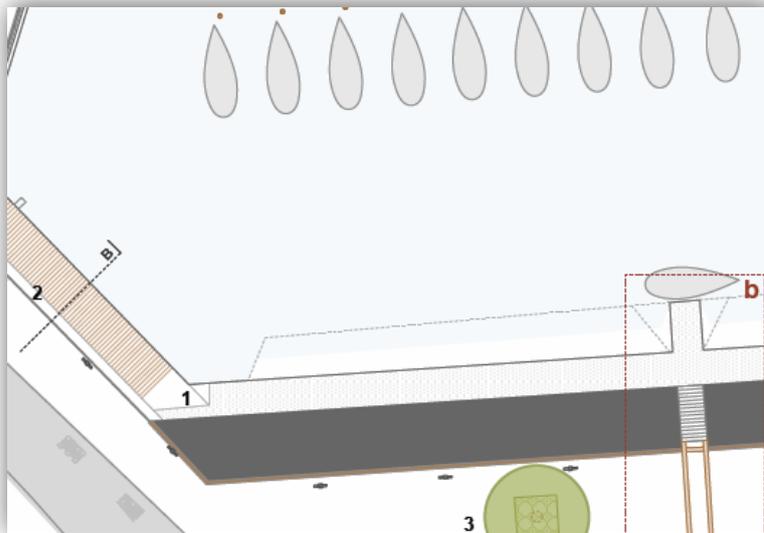
We have broken the Masterplan areas above mean high water into several distinct areas and these are discussed in this section in more detail. Each area has an associated snapshot taken from the Masterplan, all of which are taken from the Masterplan version as attached to this report as Appendix A.

3.3.2 SOUTH WESTERN CORNER

Masterplan Proposal:

Figure 5 below shows the interface between the boat harbour area and the land edge. It includes one of the primary walkway connectors to the boat harbour across a recently installed piled walkway as shown as no 2 in Figure 5 below.

Figure 5: South Western corner



The proposal is that this area would remain largely untouched, with an intention to retain the historic concrete ramp and apron immediately outside of the boat sheds as shown in the photo below:



Currently the promenade width available for public access is very narrow on the western end, with the width increasing and improving as ones moves to the east. The Masterplan shows the reconfiguration of this area to provide for a constant width path along the entire area outside the boat sheds. We are informed that this will be achieved by extending the horizontal surface on the western end and then reshaping the ramp areas with appropriate materials that would be chosen to closely match the existing concrete aggregates.

Review Comments:

This zone was of particular interest as it appears that it has had the least modifications within the new Masterplan. Discussions with Council heritage staff have indicated that there is a wish to retain the historic components and uses within this zone. These have been indicated as:

- The historic concrete apron and ramp areas

- Ramp access from each boat shed to the water's edge

Although portions of the ramp and concrete apron will be retained, we understand that significant modifications will need to be made to the ramp based upon the Masterplan which will provide a wider public access way at the western edge of this zone.

We consider that the civil works within this zone to create this outcome will be so significant that the overall aspirations of retaining the historic ramp will be lost.

We believe that due to the narrow entrance to the zone that the urban design of the area should be reconsidered. There are several potential options within this zone to improve the flow, and provide for the existing use of the boat sheds and to allow the public to connect with the water. In addition we consider that there is an opportunity to bring marina berthage closer to the land, which would allow a number of alternative urban design options within this zone.

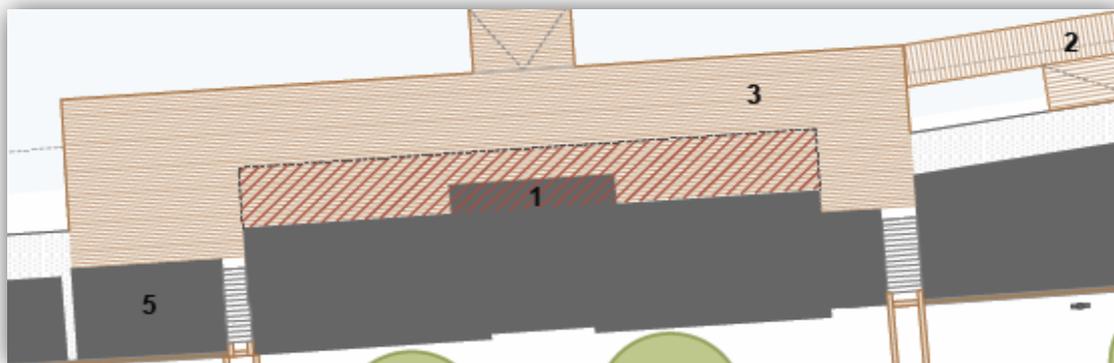
We consider that a timber walkway similar to that proposed on the eastern side of the clubrooms could be the most suitable design element for the zone. Such a continuation of the timber walkways along the entire south side of the harbour would provide continuity, allow small boat access from the boatsheds and, subject to the detailed design, could still be designed in a way to allow 'original' untouched areas of the historic ramp and concrete apron to be able to be viewed by the public as they walked along.

3.3.3 SOUTH CENTRAL ZONE

Masterplan Proposal:

This area focuses on improvements directly outside the RPNYC's clubrooms. The Masterplan proposes to redevelop the current decking with an overriding proposal to make all new decked areas uniform in height. This uniformity will connect both the areas to the east and west of this zone.

Figure 6: South Central Zone



The plaza area marked "3" in Figure 6 is then connected to the decked area that runs to the east and follows the water's edge as it runs east. The intention is that this plaza space replaces the existing decked areas. We concur with others that the current layout of the decked area would indicate to someone unfamiliar with the zone that the area is privatised and therefore off-limits. This makes the area unattractive to the public currently. The area includes the space where a potential café could be located.

Review Comments:

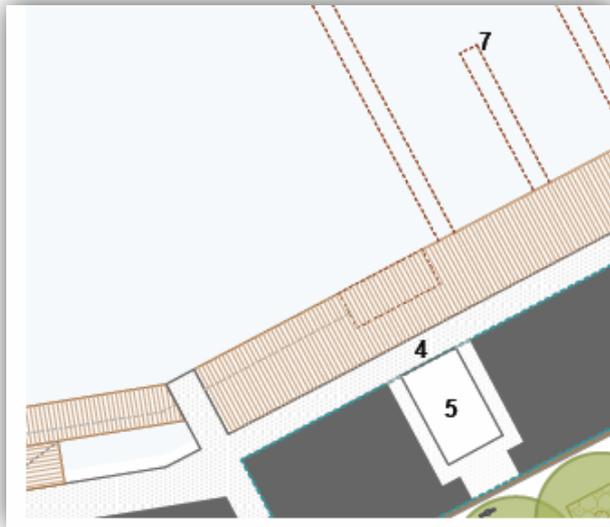
We consider that the removal of the existing varying height deck areas immediately outside the club house will greatly enhance the use of this zone by the public. The general view that the area is private comes as a direct consequence of the current design which includes vertical wind break materials and additional structures that confuse and clutter the existing space.

The photo opposite shows the unusually narrow entranceway that a member of public must choose to access through should they wish to transit through the area, while the photo below of the current layout shows the four steps between the main deck areas.

**3.3.4 SOUTH EASTERN EDGE:****Masterplan Proposal:**

Within this zone of the harbour the Masterplan includes works to:

- Replace the existing timber boardwalk
- Remove and decommission the current slipway
- Install new breastwork along the land/water interface
- Extend the Coene building adjoining the slipway across and over the void left by the removal of the slipway.

Figure 7: South Eastern Edge

Modifications to various buildings within this zone has been suggested. Fundamentally, most of the focus surrounding the buildings relates to modifications to counter the ingress of seawater and to look to protect their heritage from the potential effects of high tides and any general sea level change.

Final design solutions to stop the impacts of the water's access have not been included within the Masterplan but suggestions include lifting the floors.

The most recent version of the Masterplan held by the RPNYC includes the provision of a floating pontoon along the entire south eastern edge of the boat harbour as shown in Figure 7 above. Shown here as "Harbour Access Pontoon".

Review Comments:

This area includes some of the most significant and beneficial improvements to the public's access and enjoyment of the boat harbour. In particular we consider that the complete decommissioning and removal of the current slipway bogie will significantly enhance the public's access along and through the precinct.

Currently we consider that transiting through this area is a hazard which we believe should be urgently addressed by the Council and the Club as the hazard is such that serious injury could be sustained even for the fittest of visitors. The photo below shows the slipway bogie. Members of the public have two options - either to climb across the steel structure itself if the tide is high, or if the tide is out walk across the concrete ramp which, as shown in the photo below is covered in a marine growth which makes the crossing treacherous.



We consider that the existing sailing academy's use of this zone will be enhanced with the further development of the timber boardwalk, which will provide for a far more useable area as the decking will be continuous and not have open areas between various sections as shown in the photo below:



As the decking is proposed to be continuous it will also provide for a more useable land water interface, which can be enjoyed by many, including the vessels within the boat harbour as well as visiting vessels which could tie alongside (subject to draft).

3.3.5 EASTERN EDGE

Masterplan Proposal:

There are a number of subtle proposed changes within this zone that focus on improving the public's safe circulation through the zone. The Masterplan proposes adding a new boardwalk along the entire eastern edge of the boat harbour as shown in Figure 8(a) below, along with the installation of multiple marina berths for the sailing academy. RPNYC have included within their Masterplan for the area a floating pontoon that runs along the entire eastern edge of the boat harbour as shown in Figure 8(b) below.

Figure 8(a): Eastern Edge

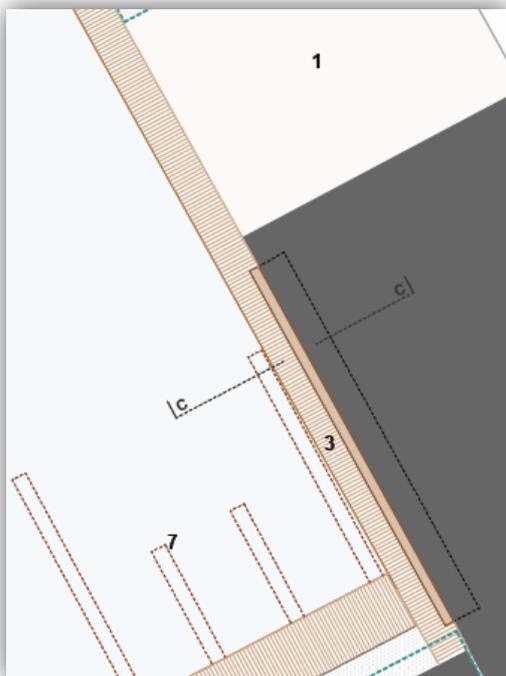
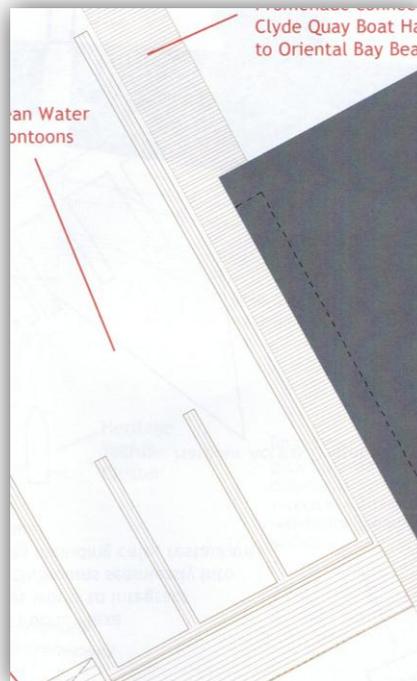


Figure 8(b) RPNYC Eastern Edge Masterplan



Review Comments:

We consider that the public benefits of the proposed new boardwalk are significant. Currently the public are faced with a hazardous journey past the Freyberg pool where they have to walk up a height difference of over 500mm with only one step as shown in the photo below.



We consider that the alcove under the pool overhang is currently a well-used and enjoyed space. The photo below shows people enjoying the space when we visited the site. Currently the public have to walk over a second structure as shown in the image below to navigate around the end of the swimming pool complex which is at another level and an obvious after thought in the original design.



Whilst this alcove area will remain available to the public, the provision within the Masterplan of a wide, purpose built boardwalk will allow the public a much more suitable area to walk along and stop at as they promenade through the boat harbour precinct.

Due to the prevailing winds from the north-west within the Wellington region we consider that this zone of the boat harbour will remain particularly attractive to the public.

We consider the extension of the pontoon system along the entire eastern edge of the boat harbour as shown in Figure 8(b) will provide an additional area of pontoon berthage but we are unaware of the demand for such an investment within the boat harbour.

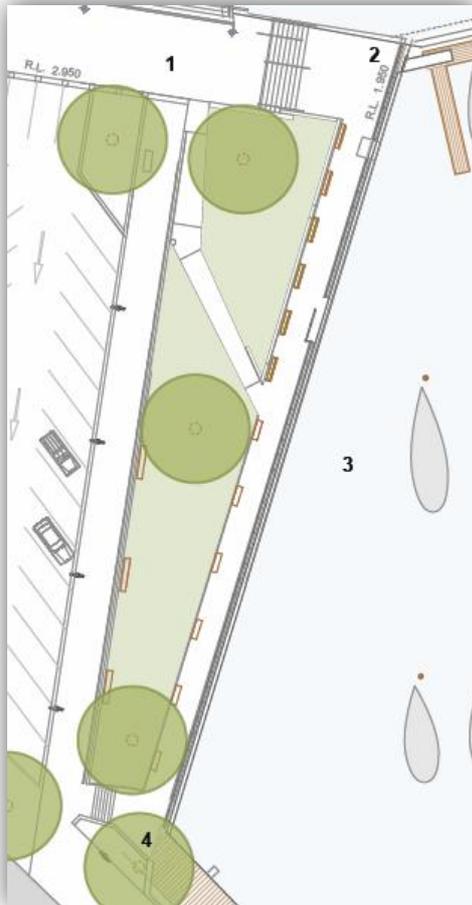
3.3.6 NORTH WESTERN ZONE

Masterplan Proposal:

This zone borders the current “container village” currently used by the contractors working on the passenger terminal apartment development. The zone is bordered by the inner sea wall to the north and the boat harbour inner seawall to the west as shown in Figure 9 below. The essential elements within this zone include:

- a number of stairs bringing the public down into the boat harbour
- improvements to the landscaping of the adjoining park area
- the provision of an access gate to the suggested marina berths in this zone.

Figure 9: North Western Zone

**Review Comments:**

We consider that these elements of urban design improvements have been well considered and considering the variance in heights, the use of a wide set of stairs will provide the opening welcome that will be required to invite the public into the boat harbour.

3.4 OTHER CONSIDERATIONS

3.4.1 SEA LEVEL RISE

We suggest the potential impacts of climate change should be discussed and considered in regard to the boat harbour. This is particularly relevant as the boat harbour is already impacted by king tides so careful consideration needs to be taken in regard to sea level change. The boat shed are already impacted and further studies may need to consider the most appropriate height for the sea walls to protect the boat harbour from adverse weather conditions. Note: we understand that sea level rise projections for the Wellington region are currently being revised.

3.5 KEY RECOMMENDATIONS

A summary of key recommendations following the review of the physical aspects of the Masterplan design and layout is set out in Table 3 below.

Table 3: Masterplan design and layout - summary of key issues and recommendations

Mooring Type / Area	Land / Water	Issues / concerns	Recommendations
Fore and Aft Moorings	Water	<ul style="list-style-type: none"> ▪ Outdated system in prime location ▪ Provides low level of amenity to users 	<ul style="list-style-type: none"> ▪ Replace with floating marina berths ▪ Consider relocating to outer sea-wall if decide to retain
Ground Tackle	Water	<ul style="list-style-type: none"> ▪ Proposed SeaFlex™ system untested in marina environment and is expensive ▪ Existing unused mooring blocks are hazardous 	<ul style="list-style-type: none"> ▪ Investigate affordability of SeaFlex™ system ▪ Remove unused mooring blocks immediately
Berth layout / location	Water	<ul style="list-style-type: none"> ▪ Remote location ▪ Concerns re wave climate (financial and practical implications) ▪ Proximity to breakwater structures 	<ul style="list-style-type: none"> ▪ Completion of a comprehensive wave study ▪ Review cost of wave attenuator ▪ Consider locating berths in location of current fore and aft moorings
Berth size	Water	<ul style="list-style-type: none"> ▪ Size limited by constrained water-space due to retention of fore and aft moorings, and limited draft. ▪ May not satisfy long term demand given trend towards larger vessels. 	<ul style="list-style-type: none"> ▪ Commission full geotechnical study and seabed survey ▪ Explore opportunities for dredging ▪ Consider removal of current fore and aft moorings
Berth fairways	Water	<ul style="list-style-type: none"> ▪ Boat harbour entrance non-compliant with Australian standards for fairway widths 	<ul style="list-style-type: none"> ▪ Modify design to ensure meets standards
Entrance Channel	Water	<ul style="list-style-type: none"> ▪ Compliant with standards only if max vessel size no greater than 16m 	<ul style="list-style-type: none"> ▪ Note requirements of standards in case maximum vessel size increases
Public Plaza	Water	<ul style="list-style-type: none"> ▪ Size is generous and does not allow for sufficient fairway space alongside 	<ul style="list-style-type: none"> ▪ Reduce width of pontoons and remove moorings as necessary to provide sufficient fairway width or consider alternative design
Breastwork and Pontoon System	Water	<ul style="list-style-type: none"> ▪ No concerns noted 	<ul style="list-style-type: none"> ▪ This can be removed if alternative designs are considered
South Western corner	Land	<ul style="list-style-type: none"> ▪ Civil works required are so significant that aspirations of retaining the historic ramp will be lost 	<ul style="list-style-type: none"> ▪ Review urban design to improve flow and public access ▪ Continuation of timber board walk through this area
South Central zone	Land	<ul style="list-style-type: none"> ▪ No concerns noted 	<ul style="list-style-type: none"> ▪ n/a
South Easter corner	Land	<ul style="list-style-type: none"> ▪ Transiting through this area is an immediate hazard 	<ul style="list-style-type: none"> ▪ Council and the Club urgently address safety hazard
Eastern Edge	Land	<ul style="list-style-type: none"> ▪ No concerns noted although club has included additional 	<ul style="list-style-type: none"> ▪ The Masterplan needs to be updated to include all aspects of

		pontoons in this zone	the overall plan
North Western zone	Land	<ul style="list-style-type: none"> ▪ Need to ensure Marine Service Centre does not detract from the existing boat sheds 	<ul style="list-style-type: none"> ▪ Carefully consider the urban design of the area and the specific design of any building

We consider that there are a number of fundamental issues with the Masterplan that are limiting the proposal from being considered exemplar and following industry best practice. We consider the project has the opportunity of being world class if some alternative considerations and decisions are made.

3.6 WELLINGTON OCEAN SPORTS AND “POWERED BY THE WIND” EDUCATION CENTRES

In general we understand the RPNYC’s drivers for incorporating these new facilities within the redevelopment of the Clyde Quay boat harbour. We suggest that the fundamental incorporation of such facilities within a boat harbour which has a yacht club as its core will provide the support that such initiatives will require.

We consider the most appropriate location for the Ocean Sports Centre is at the end of the Freyberg pool, where safe easy water access can be gained and a small craft ramp could be easily created through the existing rock sea wall. The existing breakwater in this location would provide the safer waters to allow a true ‘learn to sail’ environment.

4 DEMAND AND PRICING

4.1 INTRODUCTION

The current plans for the redevelopment of the boat harbour have included the provision of a number of new marina berths and the retention of a number of fore and aft moorings. As noted in section 3.2.4, the proposed marina berths are based upon three berths sizes 10.5m, 12m and 14m. The provision of larger berths has been excluded based upon the view that the limited water depth within the boat harbour will limit larger vessels.

This section assesses whether there is likely to be sustainable demand for these types of berths, and the pricing level proposed.

4.2 VESSEL TRENDS

In reviewing this Masterplan, we consider that demand for the facility must not just consider current demand but also understand trends that will impact on future demand.

Recent research in other parts of the country have identified a number of trends that will affect demand for space at marinas and should be used as a guide for any master planning of marina facilities:

- Mono-hull cruising yachts are progressively getting longer and beamier.
- Racing yachts are progressively getting deeper
- Deeper keels are being retrofitted to some older models of racing yachts
- Multi-hull vessels are becoming more popular and will continue to do so. This is an international trend that is catching on in New Zealand.
- Major yachting competitions moving to multi-hulls. This in turn has significant impacts on berth configuration due to the event focus of the Clyde Quay Boat Harbour.

Around the world many facilities are currently reviewing their berth mix as their current pontoons and facilities become end of life. The general themes that the marina industry is being asked to consider are:

- Demand for berths will grow in the coming decades.
- Any changes in berth layout should maximise the capacity of the marina and accordingly potential yields from berthage.
- Berths will need to be larger on average to cater for larger vessels, and will need to be wider to cater for multi-hulls.
- The mix of berth sizes needs to anticipate boat design trends.
- Users will in future demand more convenient access to their vessels for maintenance, provisioning, cleaning and other services.

The fundamental themes noted here are intended to provide guidance and are appropriate for WCC and RPNYC to consider in regard to the Clyde Quay Boat Harbour.

One underlying theme considered by many facilities is the replacement of less efficient mooring systems with alternative systems including marina berths which look to maximise the efficiencies of the scarce water space within most marinas and boat harbours.

Whilst the Masterplan for Clyde Quay Boat Harbour does remove some of the fore and aft swing moorings, it could be expected that a forward looking Masterplan may have considered or offered a number of different configuration options within the boat harbour. This is particularly

appropriate when considering the need for a Masterplan to look forward at least as long as the service life of the proposed pontoon systems.

We would therefore consider that a forward looking Masterplan for the boat harbour would look to provide options where the fore and aft moorings are either removed or phased out in favour of more efficient mooring and berthing options.

4.3 DEMAND FOR MARINA BERTHS

Demand projections for the new marina berths within the Masterplan and the associated financial model have considered demand indicators like the high occupancy rates at both Chaffers Marina and at WCC's Evans Bay Marina as their drivers.

Both facilities have been technically at capacity for some time. Masterplan supporting documentation from the Club notes that Chaffers Marina have indicated that they are considering upgrading some of their smaller berths under 14m to berths longer than 14m due to demand for larger berths.

Review Comments:

We have completed a brief review of the local demand within the region as part of this review. The research has involved discussion with marina managers at the five local facilities. Most facilities are at or are close to full occupancy across almost all of their marina berth sizes.

For some facilities such as Seaview Marina, their assessment of demand is being converted into business plans for further extensions of their marina including the installation of new marina berths. They indicate a desire to install larger berths as their existing 18 and 20 metre berths are under pressure with continued demand driving their forward business plans.

Many facilities are keeping informal waitlists for some sized berths, however waitlists are not the best means of assessing demand as often marinas will not record wait list entries for some sized berths which they know never become available. As an example this statement is true for 10m berths at Mana Marina which may never become available.

It is evident when talking with marina managers from the Wellington region that current demand for marina berths continues to grow within the region, and although the region is more focused on yachts who participate in harbour sailing races, anecdotal evidence suggests that continued demand will be seen in the harbour for more vessel moorings and particularly marina berths. We consider that Clyde Quay would be an attractive facility with walk on marina berths, in a similar way as Chafers Marina has attracted over 160 new vessels to its facility since it was built in the early 1990's. Clyde Quay has the benefit of potentially less wave movement, and its potential association with the yacht club and ability for yacht racing to conclude with vessels returning to a marina berth adjacent the RPNYC would appear to us an additional attraction which we consider will support any business plans to redevelop the boat harbour with walk on marina berths.

We do consider that the final dredged depth of the boat harbour will be an important consideration in the final master planning detail for the marina. We believe that the dredging should be completed to an appropriate depth as part of the project as retrospective dredging after additional infrastructure has been installed becomes more problematic and expensive. The final depth within the boat harbour needs to guarantee that the harbour racing fleet is able to access the marina at all times of the tide and that this one aspect does not compromise the financial model going forward.

Representatives of the RPNYC have indicated that a number of members would instantly look to relocate their vessel from other marinas to new walk on marina berths at Clyde Quay. In particular members spoken to indicate that they currently berth elsewhere due to the members favouring the ease of access to their vessel from a walk on marina berth which is something that Clyde Quay does not currently offer.

We also believe that boat owners will look to relocate from Chaffers Marina to a redeveloped Clyde Quay boat harbour as the facility will be newer and more attractive.

4.4 MARINA BERTH AVAILABILITY

When availability within a region becomes as low as that currently seen in the Wellington region, boat owners will be careful to secure a mooring or berth that they consider is available for the long term. Evans Bay, Seaview and the Clyde Quay boat harbour are unique facilities in that the entire marina or boat harbour is owned and operated by the council (or CCTO in the case of Seaview). This provides a level of assurance to the boat owner that they will not be displaced by a returning long term licence holder as may be the case at Chaffers or Mana Marina.

We would also expect that a number of tenants in the Evans Bay Marina would look to relocate to Clyde Quay if the financial difference were acceptable to the boat owner.

4.5 BERTH SIZES

Any redevelopment of a marina or boat harbour must take care to redevelop in a logical manner, with berth sizes and an appropriate layout that looks past the current demands and into the future. This is the reason that so many facilities undertake a comprehensive Masterplan process, which looks at the needs today but also casts a view as to likely future demands and trends.

In addition, modern marina pontoons have an expected life expectancy of over 35 years or longer if maintained correctly, so there is always a desire not to have to consider reconfiguring the marina in the future should the initial layout and design prove incorrect. As the Clyde Quay boat harbour is relatively small there will be few opportunities to reconfigure the boat harbour in the future and accordingly the layout and agreed berth sizes are an important consideration at this time.

Masterplan

The Masterplan as attached as Appendix "A" shows 39 new marina berths spread over three berth sizes as noted in the following table. The majority of berths are designed as 12meters long, with four berths at 14 meters long.

Table 4: Marina Berths Included in Masterplan

Berth Size	Number	Percentage
10	12	31%
12	23	59%
14	4	10%
Total	39	100%

As noted previously, the Masterplan has retained both of the two central rows of the fore and aft moorings. The inner row is designed for vessels under 8m and the middle row for vessels between 8.5m and 11m.

Review Comments:

Considering the limitations imposed upon the current Masterplan, including the retention of the two middle rows of fore and aft moorings, we consider the current marina berth size mix to be appropriate. We do consider that there are alternative berth layouts for the boat harbour that could improve the boat harbour's long term viability by incorporating more larger berths particularly if localised dredging can provide for some greater depths in certain areas should a seabed survey indicate the requirement.

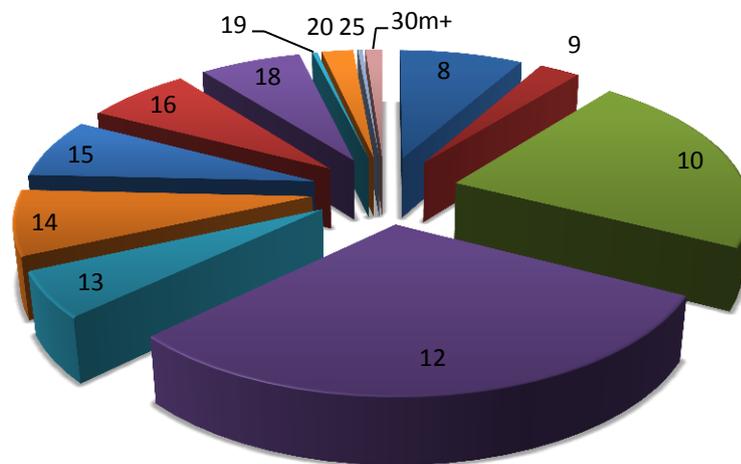
We have collected current berth length data from across the region. The data collected is shown in Appendix B. Data was collected from all Wellington harbour marinas (Chaffers, Seaview, Mana and Evans Bay Marinas) plus Nelson, Waikawa, Picton and Havelock Marinas. The data supports the current berth mix proposed within the Masterplan.

Some facts of particular interest are as follows:

- 24% of the region's marina berths are greater than 14m in length as shown in Figure 11 below. This lowers to 22% if the Marlborough Sounds marinas are excluded from the analysis.
- Evans Bay and Clyde Quay are the only facilities to offer moorings or berths under 10m.
- Demand for Catamaran (wider) berths is apparent at many facilities and redevelopment at some has included such berths.

Figure 11: Berth lengths (metres) as percentage of regional total

Berth Lengths (m) as percentage of Regional Total



In the last five years no marina facility in the country has developed any marina berths less than 10m long and where possible the marina operators will attempt to install 12m as their smallest.

We recite an industry saying that “you can always put a smaller vessel into a bigger berth”. It is with this in mind that we suggest that the detailed design of the boat harbour carefully considers maximising the length of berths with the available water space so to guarantee the most long term success of the redeveloped boat harbour.

We also consider that the Masterplan fails to consider the likely long term viability of the fore and aft moorings within the harbour particularly as the financial model looks to increase the licence fees on these moorings considerably over time. This is particularly true for those smaller moorings

on the inner row which are designed for vessels under 8m. In the long term as licence fees increase we would expect that such smaller vessels would become casualties of the ever increasing fees, which could result in Clyde Quay having small 8m moorings that were in low demand and unable to be used by larger vessels due to design limitations.

We therefore suggest that any investment in the fore and aft moorings within the harbour be reconsidered in favour of alternatives. Such alternatives could include one or more of the following:

- Relocation of the moorings to less favoured locations within the harbour (i.e. against the sea walls).
- Retention of the current business model of private ownership of the mooring blocks (including relocation)
- Consider some low cost pile mooring within the harbour
- A programme of not reallocating existing licences when the existing tenant terminates
- Consideration of alternative layouts for the boat harbour

We consider that the two rows of fore and aft moorings do occupy the prime water space within the boat harbour. As these are the lesser value space we consider that the better location for the smaller low value moorings are along the inside of the two seawalls. If the moorings were relocated to the inside the sea walls it would allow the prime water space to be reconfigured to provide for some attractively positioned marina berths in the central core of the harbour.

To assist us in evaluating the alternatives for Clyde Quay we have produced some indicative layouts for the western end of the harbour as an example area. They have been completed with a number of objectives including providing for:

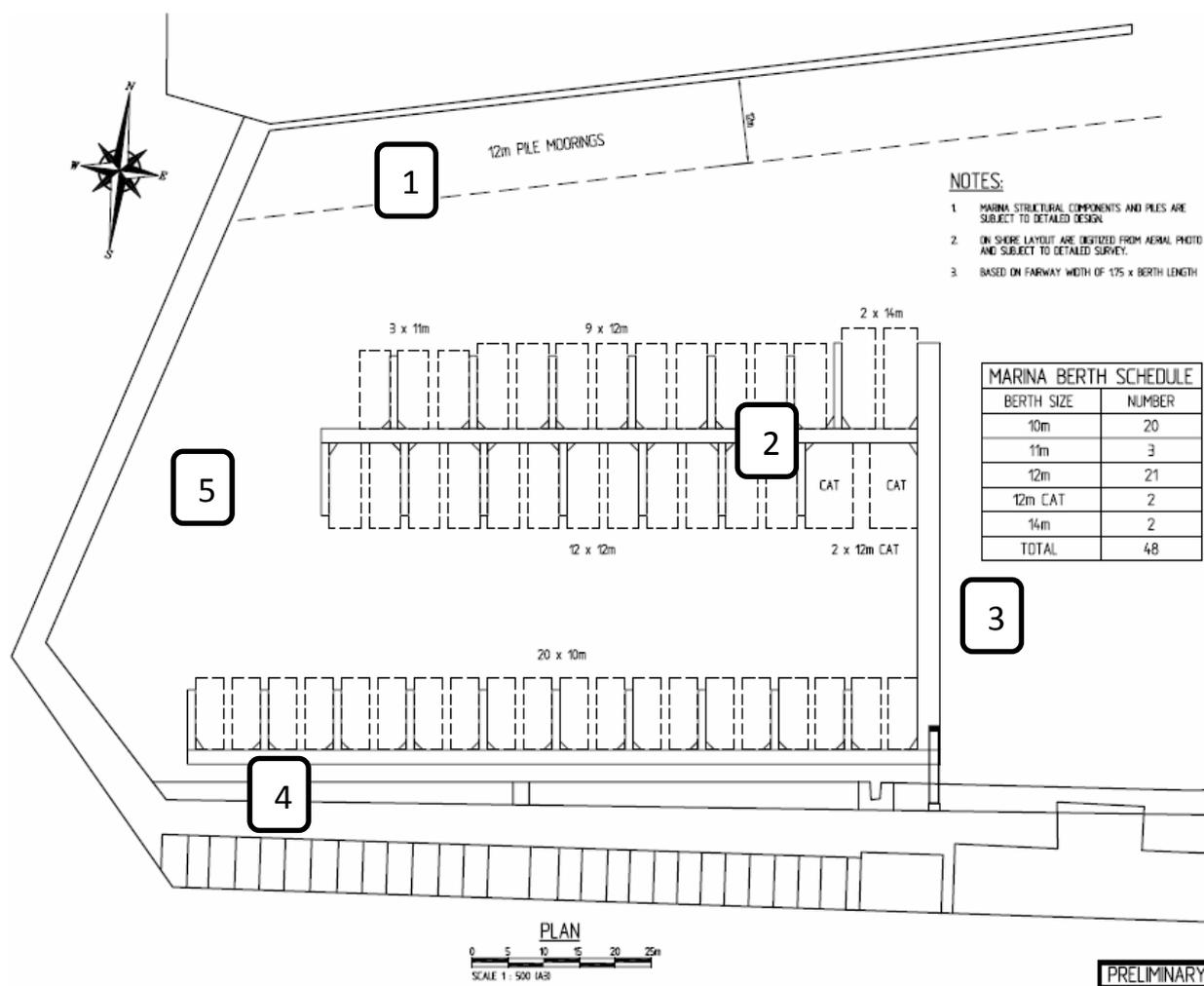
- The relocation of the fore and aft moorings
- An “events berth” or central plaza area that is more efficient
- A number of larger berths in line with general berth size trends
- More marina berths than the current Masterplan

One objective was to look for alternatives to the central plaza pontoon which we consider is potentially an inefficient use of the water space as the double sided pontoon requires significant fairway space around it. In these layout examples we have incorporated this plaza pontoon into the walkway of the marina pier. In this way the pontoon has a dual use including an events facility that can be used by the RPNYC when required. On this basis a similar pontoon walkway would be created on the eastern end of the boat harbour as part of that marina layout. This would then leave an open water space between both pontoons outside the club rooms not just for navigation but for other water sports including displays and remote controlled boat race courses.

Note: *It should be noted that these images are provided only as an example of alternative layout options within one area of the boat harbour. They are to scale but were drafted quickly to promote further discussion. If this type of layout was ever considered, the connector walkway (plaza & events berth) would likely be more to the west than shown here.*

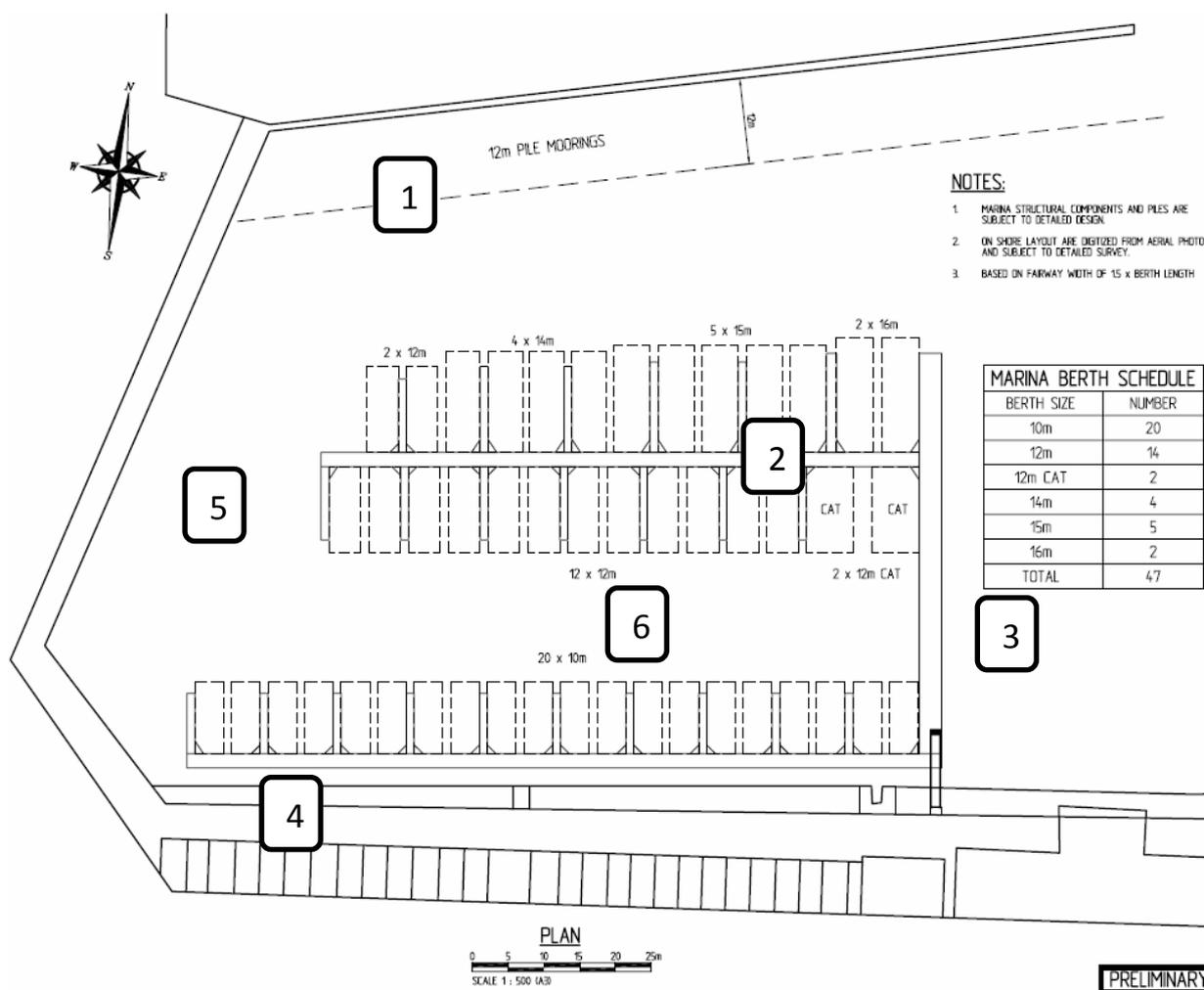
Example 1: This layout example shows:

1. Pile berths along the inside of the seawall – no moorings
2. Marina berths including catamaran berths from 10m to 14m, smallest berths 10m
3. A north south walkway between piers that acts as the events berth
4. Space at the base of the concrete ramp to allow for dingy launching for those on the pile moorings
5. Navigation space for vessels and dinghys travelling to the pile moorings adjacent the seawall.



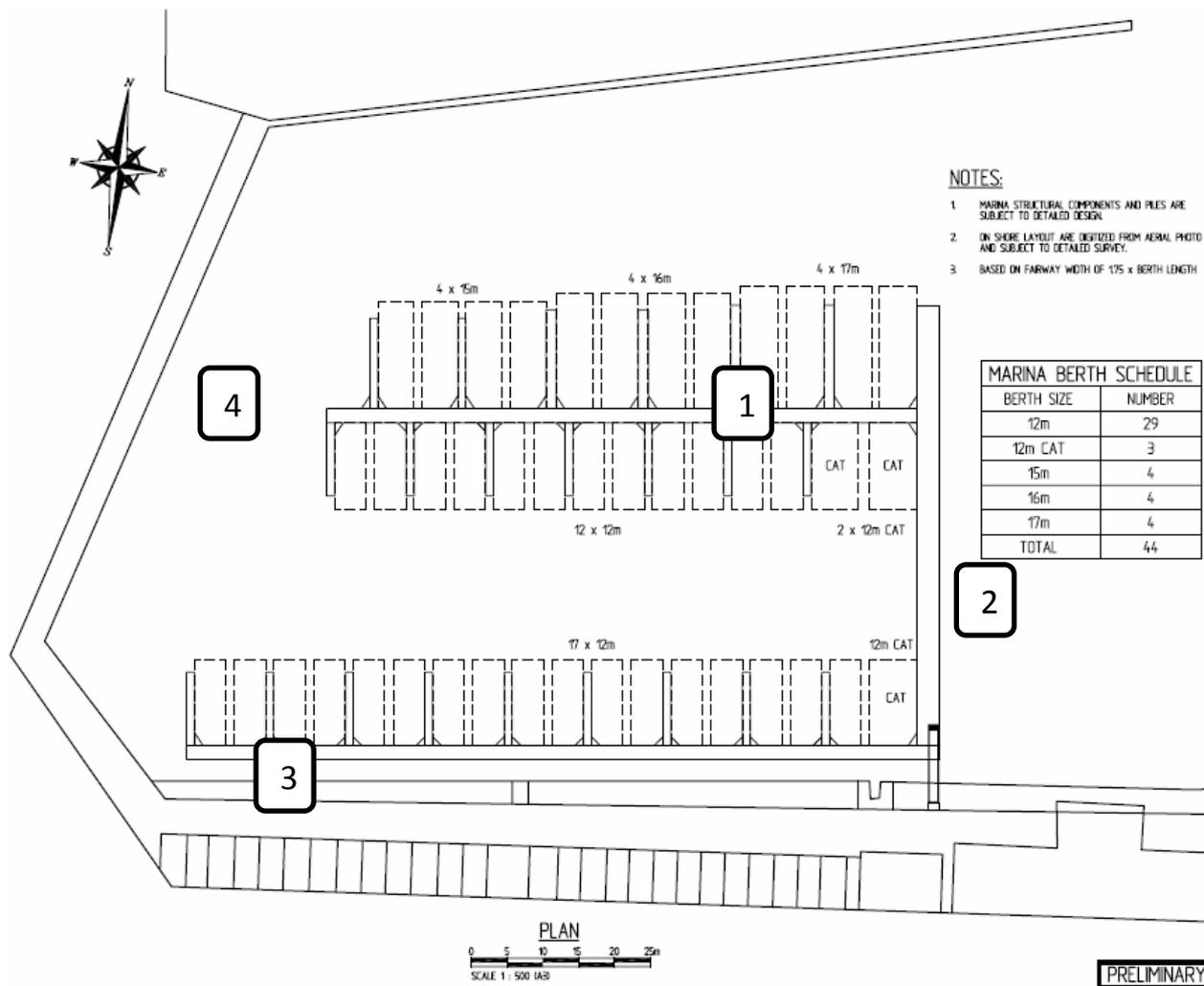
Example 2: This layout example shows:

1. Pile berths along the inside of the seawall
2. Marina berths including catamaran berths from 10m to 16m, including 11 between 14m & 16m
3. A north south walkway between piers that acts as the events berth
4. Space at the base of the concrete ramp to allow for dingy launching for those on the pile moorings
5. Navigation space for vessels and dinghy's
6. Fairway width drops to 1.5 times vessel length



Example 3: This layout example shows:

1. The smallest marina berth is now 12m, the largest 17m
2. A north south walkway between piers that acts as the events berth
3. Space at the base of the concrete ramp to allow for dingy launching for those on the pile moorings- outer breakwater only
4. Navigation space for vessels and dinghy's
5. Pile or fore and aft moorings removed and relocated to the outer breakwater



1.1 LICENCE FEES & RENTAL RATES

The financial model and other reports provided for the purpose of this review have considered long term licence fees or rental rates for comparative marina berths at Chaffers Marina, Seaview Marina and Westhaven Marinas as shown in the table below. We have adjusted these values to monthly amounts.

Table 5: Comparative licence fees and rental rates

Marina	Mooring 8m	Mooring 10m	Mooring 12m	Berth 10m	Berth 12m	Berth 14m
Westhaven	\$ 186.00	\$ 232.00	\$ 279.00	\$ 558.00	\$ 682.00	\$ 821.50
Chaffers	n/a	n/a	n/a	\$ 334.75	\$ 422.30	\$ 525.30
Seaview	\$ 102.17	\$ 102.17	\$ 102.17	\$ 273.75	\$ 338.67	\$ 400.00
Clyde Quay	\$ 85.00	\$ 85.00	\$ 85.00	n/a	n/a	n/a

These rates have then been used as the basis for setting the likely rates at a redeveloped Clyde Quay Marina. Table 6 below shows the rates proposed in 2019 which have been adjusted for inflation and other passed increases as proposed within the financial model.

Table 6: Proposed 2019 rates

Marina	Mooring 8m	Mooring 10m	Mooring 12m	Berth 10m	Berth 12m	Berth 14m
Westhaven	\$ 228.78	\$ 285.36	\$ 343.17	\$ 686.34	\$ 838.86	\$ 1,010.45
Chaffers	n/a	n/a	n/a	\$ 411.74	\$ 519.43	\$ 646.12
Seaview	\$ 125.67	\$ 125.67	\$ 125.67	\$ 336.71	\$ 416.56	\$ 492.00
Clyde Quay	\$ 183.14	\$ 183.14	\$ 183.14	\$ 411.70	\$ 519.38	\$ 646.05

Review Comments:

The value of including Westhaven's rates within the business plan is unclear to us other than to show some of the higher rates in New Zealand from a central city marina. We understand that the inclusion by the RPNYC of these figures was to provide a comparative rate from a central city marina that was adjacent a yacht club with similar sail training programmes and facilities.

We consider the most appropriate comparative rates are those from Chaffers and Seaview (as included within the business plan) but also to look at Mana and Evans Bay, as it is likely that a vessel owner will consider the rates in all available marinas when high demand is providing few alternatives. Table 7 below shows the rates as at November 2012 for a select few berths sizes, with the full set of data available in Appendix C. We have included Nelson marina only as an example of another local Council operated facility.

Table 7: Comparative licence fees and rental rates (2012)

Berth Length	Chaffers	Mana	Nelson	Evans Bay	Seaview	Average
8		-	\$ 172.00	\$ 126.67	-	\$ 149.33
9			\$ 193.50			\$ 193.50
10	\$ 368.33	\$ 334.00	\$ 215.00	\$ 215.00	\$ 273.75	\$ 281.22
12	\$ 433.33	\$ 410.00	\$ 258.00		\$ 338.67	\$ 360.00
14		\$ 510.00		\$ 215.00	\$ 400.00	\$ 375.00

Our first observation is the unusual way that Evans Bay and Clyde Quay currently choose to set their annual licence fees. These facilities charge the same annual licence fee regardless of the vessel length using the marina or moorings. This is far from industry practice. Whilst licence fees are considered cheap, this pricing methodology will produce no resentment from vessel owners however we speculate that if the rates are to increase (as proposed by the financial model) then the lack of variability based upon vessel length may start to frustrate some.

The financial model also assumes that this flat line pricing regime will remain in place for the different sized moorings but that the marina berths will see variable charges based upon vessel lengths. We find it hard to support such a split in methodology. If it is accepted that some vessels will look to relocate from Evans Bay marina, then the variance in the rates will make Clyde Quay appear unnecessarily unattractive.

We consider that the pricing regime may need to be reconsidered for the moorings so to bring the facilities in line with industry practice and to follow the pricing regime suggested for the marina berths.

We note that the rates for marina berths proposed at Clyde Quay are almost a duplicate of the rates at Chaffers Marina (refer Table 6). We are unsure how the rates could be considered that close to Chaffers as it will be expected that Chaffers will have a far higher costs base which in turn would support its higher rental rates. These assumptions are made as the facility will have far higher maintenance costs, as well as higher insurance premiums to name a few differences. The rates are also quite a lot higher than we would expect when compared to a full service marina such as Seaview. Although Seaview is not in the heart of the city it offers a full set of services including ample free car parking, and a host of onsite service providers.

If tenants for Clyde Quay are relocating just from Chaffers Marina, or due to lack of availability elsewhere where there are no alternatives then we could support the higher rates but if the redeveloped marina is to initially attract vessels from other facilities then we consider that the setting of the fees may be too aggressive in the short term.

We are also concerned with the more than twofold increase in mooring licence fees from the current monthly amount of \$85 to a post redevelopment cost of \$183 per month by 2017/18. We would categorise these users – particular those on the smallest moorings – as the most price sensitive to licence fee movements and are the ones most likely to relocate if the rates increase as much as suggested. As noted in the previous section, it is for these reasons that we question the current plan of replacing the fore and aft mooring systems for these low value moorings.

We are also aware that a number of the moorings within the Clyde Quay boat harbour are leased by some just so that they may gain access to the prized lease of a boat shed. Many who do so, currently consider that the annual licence fees are low enough for them to accept this additional fee as their 'key money' to the boat sheds. If the mooring licence fee was to increase as planned, a number of these users may reconsider their mooring occupation.

5 MAINTENANCE

This section looks to address the question over planning for the long term maintenance of the Marina.

5.1 BUSINESS CASE & CURRENT SITUATION

The business case has included future expenses based upon an overriding principle that additional maintenance should be provided for within the future plan. Detailed calculations for this planned maintenance have not been provided but the Club has indicated that a comprehensive Asset Management Plan (AMP) would be developed to assist the Club manage the facilities.

The unique benefit of the current mooring licence agreements within the Clyde Quay Boat Harbour is that all current mooring equipment is owned by the mooring licence holder. This is unique in New Zealand, and whilst it removes WCC from maintenance obligations relating to the mooring 'blocks' it has over the years proved problematic in the operation of the Boat Harbour. In particular, mooring holders fail to follow procedure and do not have their mooring blocks inspected which can end up with damage to vessels when failure occurs.

Should the redevelopment occur and new marina berths are installed into the boat harbour and a new mooring system is introduced then there will be significant items of infrastructure that will require maintenance and regular inspection.

Review Comments:

We believe it will be important for the redeveloped boat harbour to be managed by a skilled set of people. As noted in the following section of this report we consider there are advantages and disadvantages of clubs and societies managing assets of this nature. Too often the societies or clubs are not well positioned or prepared to consider long term commitments due to their elected members being focused on the short term.

We are concerned that there does not appear to be any allowances within the business plan for a sinking fund or a 'refurbishment fund' as termed by the industry. Such funds are usually contributed to during the useful life of the assets so that significant items of maintenance can be expensed infrequently without the need to vary individual years licence fees to cover such one off expenses. Many funds across the country are contributed into based upon a fixed percentage of annual expenses. In general these are set at 10% of annual expenses, but in facilities with perpetual licences or leases – which would be most comparable to Clyde Quay Marina – these fund contributions can be closer to 30% of annual expenses.

The use of a refurbishment fund to fund irregular and significant items of maintenance such as dredging or the removal of unwanted or discarded mooring blocks would seem most appropriate for Clyde Quay Boat Harbour.

Should the management of the boat harbour be transferred or delegated to the RPNYC then careful oversight will be required so that standards of maintenance are kept high and align with the overriding AMP.

Care will also need to be taken in considering which areas within the boat harbour become the maintenance responsibility of the Club versus those retained and maintained by the Council. This

split in management will only need to be considered if there was a decision by Council to retain those public realm areas of the redevelopment for some strategic reason or to include these areas within existing management and maintenance contracts in existence already along the waterfront.

5.2 MARINA PONTOONS

As discussed previously, if marina pontoons are to be installed into the boat harbour inside the eastern outer breakwater as shown in the Masterplan, then we speculate that the maintenance requirements of those pontoons will be significant. The significant amount of wave movement within the harbour will continually move the pontoons which in turn reduces their life expectancy and increases the wear and tear and associated maintenance. Subject to the final wave climate, the life expectancy of these pontoons could be reduced significantly below their promoted 30+ years life expectancy.

It should also be noted that as with any new products the initial maintenance costs will be low with more substantial items of maintenance likely to be recorded within the AMP after year eight. Most maintenance review periods will also be dependent upon the various selections of pontoons and construction materials during the specification and thereafter during the procurement phase.

6 MANAGEMENT

This section compares the proposed management model for Clyde Quay Boat Harbour against other models, including the existing Council managed model, and identifies the benefits and risks of alternative models.

It also provides an assessment as to how Council can manage future service delivery under a potential contract with RPNYC.

6.1 WCC MANAGEMENT

Currently, Clyde Quay Boat Harbour is managed by a WCC staff member who also manages the Evans Bay Marina. For convenience and due to office resource availability this staff member is based at Evans Bay Marina. This management extends to the day to day operation of both the Marina and boat harbour with all back office processes are provided by WCC back office staff.

Management decisions are made through standard Council process where staff promote change and seek funding through Council budgets and funding rounds. The process of setting berthing fees at either facility is based upon the recharging of actual costs to operate and run the facilities, rather than any commercially set licence fees.

In recent years when Council officers have proposed significant increases in licence fees at these increases have been met with strong opposition. This opposition has resulted in the formation of various user groups who then put pressure on Council to reduce or stop any increase in licence fees. Generally these users groups' lobbying has been successful in stopping significant increases of this type.

6.2 BUSINESS PLAN PROPOSAL

The business plan proposal includes an overriding recommendation that WCC transfer their management of the Clyde Quay marina to the RPNYC. The Club has provided a number of alternatives around the management of the marina but the most favoured option promoted by the club includes the establishment of a Trust which would oversee the management of the boat harbour.

The Trust proposed by the club would consist of 2 club members and 2 council representatives. The club considers that the Trust would then have the boat harbour assets transferred to it. The Trust would then be responsible for the management and the maintenance of the boat harbour assets which would include the boat sheds the marina berths and the moorings. An alternative option has been proposed by the Club that includes a more simple management only contract with the Club.

If the Trust structure is agreed, then the Club has proposed that the Trust could provide a head licence to the Club for a term of 30 years (with renewal rights) for not only the new marina and mooring assets but the boat sheds as well. If no head licence was agreed then the club would only act as an agent to collect fees.

Regardless of the final mechanism it is proposed that the Club would:

-
- Manage the day to day enquiries for the boat sheds, moorings and marina berths
 - Complete back office administration using Club staff
 - Manage all maintenance within the boat harbour using Club staff
 - Manage all outside contractors used to service the Boat Harbour – such as rubbish removal and maintenance etc.

The Club accepts that the redeveloped boat harbour will need to be maintained to a high standard and considers that any management agreement would consider a number of standards including maintenance. They consider that the financial model supports the added costs of maintaining the structure and buildings to a high standard.

The financial model assumes that the management and maintenance costs will increase and that these added costs will be passed onto all of the shed, mooring and berth licence holders through the fees they pay.

The Club has also indicated a desire to work closer with Chaffers Marina Ltd and the Council has signalled a desire to explore this possibility also. Chaffers Marina Ltd has asked the Club to consider managing both marinas “as one”. Chaffers Marina Ltd, the Club and the Council cites the economy of scale benefits of operating the two facilities using one central office and team and also sees benefits of treating the precinct as one for the purposes of future planning and development.

Review Comments:

We consider that any transfer of the management rights of the Marina will be a more complex decision for the Council than the actual redevelopment of the Marina itself. We also consider that the technical process of transferring the management rights as proposed by the Club is relatively complex and ‘extended’ and may result in future complications.

In discussions with the Club it appears that their overriding desire to manage the Marina is primarily about improving the current professionalism and availability of management at Clyde Quay Boat Harbour. They consider they can achieve this goal by managing the facility with a group who have a strong vested interest in the boat harbours success. As noted above, their secondary motivator is as a means of instigating a significant shift in the way the boat harbour is managed which would in turn provide the foundation for increasing revenue from the boat harbour to support the funding model proposed.

We believe that the Club considers it would be unlikely that the current Council management, with its specific and unique council mandate for management, would be able to manage and support the significant increases in licence fees being proposed by the Club in the business plan. This point is explained more in the following section.

6.3 ALTERNATIVE OWNERSHIP AND MANAGEMENT MODELS

There are 40 major marinas in New Zealand. Table 8 below shows the ownership type for each facility around the country. As shown, only a small number of facilities remain owned and managed directly by local or central government. Historically, additional facilities were held by Councils, however for a number of reasons including the introduction of various legislation, the ownership of marinas has slowly moved away from local government (LG) ownership. Where ownership has been converted from LG ownership it has traditionally moved to a Council Controlled Organisation (CCO) or a Council Controlled Trading Organisation (CCTO).

Table 8: New Zealand Marina Ownership

Central Government	<ul style="list-style-type: none"> • Lake Taupo Marina
Local Council (or business unit)	<ul style="list-style-type: none"> • Napier Marina • Evans Bay Marina • Clyde Quay Boat Harbour • Nelson Marina • Port Tarakohe Marina
CCO or CCTO	<ul style="list-style-type: none"> • Westhaven Marina • Viaduct Marina • Seaview Marina • Opuā Marina • Gisborne Marina • Waikawa, Havelock and Picton Marinas
Incorporated Society or Club	<ul style="list-style-type: none"> • Buckland's Beach Yacht Club • Mana Marina • Milford Marina • Tauranga Marina • Whangamata Marina • Whitianga Marina • Kerikeri Marina • Napier Sailing Club Marina • Outboard Boating Club
Charitable Trust	<ul style="list-style-type: none"> • Half Moon Bay Marina • Whangaroa Marina • Orakei Marina • Tutukaka Marina • Whangarei Town Basin Marina
Private Company	<ul style="list-style-type: none"> • Bayswater Marina • Chaffers Marina • Gisborne Marina • Gulf Harbour Marina • Westpark Marina • Kinloch Marina • Marsden Cove Marina • Orams Marina • Pier 21 • Pine Harbour Marina • Riverside Drive Marina • Tauranga Bridge Marina • Westpark Marina

There have been very few sales of operational Marinas in New Zealand for a very long time, the most recent of which was the sale of Westhaven Marina in Auckland in 2006. The vendor was a publically listed company, Ports of Auckland Ltd, who completed an international marketing campaign, which produced a number of tenders for the Marina and associated land assets. At the eleventh hour, central government joined the sale process and ‘trumped’ the highest bid, and later on-sold the assets to the then Auckland City Council. Although Auckland City Council then ran the facility through its property department the assets were recently transferred to Auckland Council’s CCO – Waterfront Auckland who has managed and operated the marina since Auckland Council’s inception in November 2010.

All ownership structures have their benefits and disadvantages, although Table 8 indicates the small number of marinas that remain with a similar management structure to Clyde Quay Boat Harbour and Evans Bay Marina. We consider that the Club is suggesting a move away from local government management so that the facility can benefit from a number of advantages that are often associated with non-local government run facilities.

Marina operators have often discussed the various advantages and disadvantages of the variety of ownership structures in operation around New Zealand. The following basic themes are drawn from some of the general industry thinking when considering the benefits versus the disadvantages of LG ownership:

Table 9: Advantages and Disadvantages of Local Government ownership

Advantages	Disadvantages
<ul style="list-style-type: none"> • Retain ownership of strategic or sensitive coastal areas • Retention of a public assets where the operation is not commercially viable • Council can under-write capital intensive developments or upgrades • A source of revenue to offset rates or other projects 	<ul style="list-style-type: none"> • Politics can adversely influence decision-making • Competition with other Council assets for funding • Incurring of indirect costs imposed by Council departments • Bureaucracy can get in the way of the smooth operations of the marina • Less focus / expertise compared to organisation with sole focus on marina business

The above generalised themes do illustrate that the ‘advantages’ appear to have little benefit on the end users of the Marina. When compared with the disadvantages, we can understand why the RPNYC is of the view that an alternative management structure could be considered and it could be the redevelopment of the Boat Harbour that triggers such an ownership change.

We do consider that there are good examples around New Zealand of incorporated societies and yacht clubs that are running their facilities in a professional and appropriate manner. We do note that the facilities that are the best managed and run are those that are setup exclusively to manage the Marina where the focus is solely on the Marina and not on other society interests or focuses. Table 10 below highlights some of the advantages and disadvantages when considering society or club ownership and management.

Table 10: Advantages and Disadvantages of Incorporated Societies management of Marinas

Advantages	Disadvantages
<ul style="list-style-type: none"> • Can be a source of revenue for the Society • A relatively simple ownership structure • Members have a say in the running of the operation • Preferable to private ownership when sensitive coastal land is included • Helps control access/membership to the marina, enhancing the marina as a destination • Allows Council to contract out the operation of an asset in which it has no expertise 	<ul style="list-style-type: none"> • Self-interested parties may dominate decisions • Limited access to funds for major redevelopment or expansion • Requirements that users also be members of the society operating the marina • Societies are often subject to the will of their membership. • Short-term thinking may prevail over long-term planning – important when considering long term maintenance of an asset

The future management of the Boat Harbour is important to the future success of the facility because the management will be responsible for the significant increases in licence fees to meet the targets set by the financial business case.

We believe that given the importance of the decision to the future success of the marina, prior to implementing any moves to change the existing management, some further careful consideration and a full risk assessment will need to be completed.

6.4 POTENTIAL RISKS

It is important to review the potential risks associated with the options for the future management of the boat harbour particularly as the financial model is so dependent upon a significant increase in berth and mooring licence fees.

The Club has considered a number of risks, however we consider some mitigation measures need more weighting and further consideration.

6.5 ALTERNATIVES & RECOMMENDATIONS

We are of the opinion that there is an opportunity for Council to review its management of the Clyde Quay Boat Harbour at the time that any future redevelopment is completed.

Whilst the MOU noted the opportunity to investigate options for the RPNYC to manage the Boat Harbour, the benefits of the Club becoming involved in the day to day management relate more to the fact that:

- The club is based at the Boat Harbour
- The club is a licence holder of several of the Boat Sheds and the moorings
- The club occupies free a number of marina berths
- The club will likely become the exclusive user and possibly manager of the 'central plaza'.
- The club will be managing other functions within the redeveloped Boat Harbour such as the Wellington Ocean Sports Centre

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- The club will be working closely with the Council on the development and management of the Wellington Harbour Festival

We do not support the more complex management options as proposed by the Club which included the transfer of the assets and the formation of the Trust. Subject to WCC's desire to delegate their management to others we consider that a simple day to day management agreement could satisfy most of the motivators proposed by the Club in supporting such a change

Due to the closeness of Evans Bay Marina we believe that any review of Council's management of Clyde Quay Marina may also wish to consider its Evans Bay facility.

We do question the need for WCC to consider any future subsidised or special treatment for displaced mooring holders but do raise the alternatives available particularly as those users will be seen as stakeholders in the redevelopment proposals.

7 FINANCIAL REVIEW

To answer the question as to whether the business case is financially sound, the various components of the current Masterplan have been considered and reviewed alongside the financial model provided. The emphasis is on the viability of the commercial components of the plan, and those items that focus on the provision of improved public access and other public amenity enhancements have not been considered.

Financial Model:

The financial model has been created based on a number of over-riding principles and assumptions which include:

- The boat harbour is managed by RPNYC
- Wave mitigation costs are no more than \$100,000
- The average marina berth occupancy over the first 10 years is 84%
- The average fore and aft mooring occupancy over the first 10 years is 96%
- The boat shed occupancy is 100% for all periods within the model
- The marina berth licence fees mimic those charged at the neighbouring Chaffers Marina in the first year post redevelopment
- Marina berth rental or licence fees vary by berth length
- Fore and aft mooring fees do not vary on vessel or mooring length

In regard to wave mitigation costs we note that the financial model has been modified using formulae to remove the stated wave mitigation cost of \$554,000 and instead replace it with a sum of \$100,000. We would recommend that a new revision of the model is created that removes reference to the original amount as to a reviewer of the model, the underlying formulae that removes this amount are not immediately visible.

7.1 BERTH NUMBERS

The Masterplan visually shows a total of 39 marina berths along the inside of the two breakwaters, with a further 4 marina berths for the Wellington Ocean Sports Centre in the south eastern corner of the boat harbour. The Masterplan also shows a total of 49 fore and aft moorings across two primary rows running east to west across the boat harbour.

Review Comments:

The financial model appears to use a different berth length mix and total number of marina berths within the model than is shown within the Masterplan. Table 11 below shows the identified variance.

Table 11: Berth number variance between Masterplan and Financial Model

Berth Size	Masterplan	Financial Model
10m	12	10
12m	23	25
14m	4	7
Total	39	42

The variance may have arisen due to an initial inclusion of the RPNYC sailing academy berths within the primary marina berth totals. This is most possible as the revenue from these four marina

berths within the financial model are calculated as though the 'berths' are fore and aft moorings and not Marina Berths. We assume that these reduced licence fees for these marina berths is due to RPNYC's ownership of the pontoons in question.

It also appears that the total mooring numbers differ from those shown on the Masterplan. In total the Masterplan shows 49 moorings (excluding those used by the sailing school). The financial model appears to be using a total of 54 moorings in the revenue calculations with a further 3 used to calculate the licence fees for the RPNYC's marina berths.

Our review of the current layout of boat harbour as discussed in an earlier section of this report highlighted our view that some of the moorings are located too close to the proposed central plaza pontoon to allow for safe navigation around this pontoon. Our recommendation included the removal of several of these moorings which will impact on the total numbers and accordingly the revenue.

7.2 REVENUE AND PRICING

The marina berth rental or licence fees used within the financial model mimics those currently charged at the neighbouring Chaffers Marina. The model assumes that these rates will increase annually from year one at a rate of 3% compounding during the following 10 years shown within the model.

For the fore and aft moorings and the boat sheds this rate of inflation is replaced with a year on year increase in rental rates as part of a phasing in of a new proposed licence fee for these two products. The model shows a compounding increase of 24% for the mooring and 26% for the boat sheds for each of the first three years post redevelopment.

Review Comments:

We have already highlighted our concern that the proposed licence fee model includes a variable fee for the marina berths based upon berth length, but a flat fee for all moorings regardless of vessel size. We suggest that this is reconsidered.

We also consider that the use of a compounding rate of inflation across all of the first ten years of the operation of this boat harbour is aggressive, particularly considering that the starting rates are equal with the highest rental rates charged within the region as shown in Appendix C.

We would consider it highly unlikely that every marina facility within the region would be able to match a year on year increase of 3%, which could result, if the model is followed, of Clyde Quay boat harbours licence fees being the highest in the region.

With the most recent published rates of inflation being less than 3% and aside from our other comments, it may be appropriate that this overall rate is reconsidered and lowered.

We support the phasing in of any higher rates for the occupation of the moorings but do consider as already discussed that these tenants are, in our opinion, those that are most likely to reconsider their tenancy if the rates increase at the rates proposed. We have not seen the supporting evidence but do consider an overall increase of over 100% for the boat sheds and 95% for the moorings to be relatively aggressive. We acknowledge that both the moorings and the sheds are currently at very low rentals compared to similar moorings or storage facilities.

We do believe that some miscellaneous income could be included within the model where this revenue could be generated from the variety of pontoons and the central plaza pontoon, based either upon short term visiting vessels or from fees charged to event organisers.

7.3 OCCUPANCY

The financial model forecasts that the occupancy of the marina berths will increase from an initial starting point of 40% through to full occupancy by year five. Aside from occupancy impacts due to construction, the model suggests that the moorings will remain at full occupancy and the continued popularity of the boat sheds is projected to maintain their occupancy at essentially 100%.

Review Comments:

As with our previous comments, we are concerned that when combined with an aggressive increase in licence fees that the steady increase in occupancy for the marina berths is potentially overstated.

Although a new marina berth will be an attractive option to some, we would speculate that most potential tenants will be surprised to pay the same as they pay at Chaffers Marina or pay over 30% more if they were relocating from Seaview Marina or over 60% more if considering the move from Evans Bay Marina. (These comparisons assume some increase in these facilities respective rates).

We also consider that a phased introduction of the proposed 'full' rates for the moorings will have an impact on the assumed 100% occupancy as this phased increase will need to be declared to all existing tenants. We consider that there will be existing tenants that will be either unable or unwilling to pay the rates proposed at the end of the five year period and accordingly may reconsider their options at an early stage. We acknowledge that there are fewer moorings in the future so the model can assume the loss of some customers. We consider those mooring holders that retain a mooring (with a low value vessel) solely to retain a boat shed may be those that will reevaluate their tenancy based upon a combined cost to retain the boat shed.

Our preference in modelling occupancy would be to consider some opening special rental rates, combined with a utilisation figure that potentially reflects use of the bigger berths by smaller vessels for some initial periods whilst occupancy grows.

7.4 EXPENSES

The financial model has used the existing operating expenses (opex) within the boat harbour as a starting point and added a number of additional components including an additional management fee of \$75,000 paid to the RPNYC along with \$25,000 per year of additional expenses based upon estimates. If the additional management fee is paid to RPNYC then the current WCC labour cost is removed. The model has used an interest rate of 6% on all borrowings and an increased level of depreciation based upon the allocation of \$2.6 million of additional capital expenditure from the redevelopment.

Review Comments:

We have not been provided with a breakdown of the \$25,000 of additional core operating expenses but understand that the underwater inspection of the moorings is one component that has been considered.

From our review of the existing budget we would consider that the additional opex must consider such items as:

- Insurance premiums for the new marina berths and moorings
- Liability insurances for RPNYC as manager
- Reinsurance valuation costs
- Council land rates
- Maintenance dredging
- Utility usage for all marina users including electricity usage and water
- Additional waste and recycling removal (including oil)
- Security and CCTV costs
- Website and additional communication expenses
- Cleaning costs
- Provision of bad debts and debt collection

The utility usage of some vessels can be quite high so we would recommend that these vessels could have these expenses metered and charged back to the berth occupier. However, we do highlight that this will be difficult to implement if the proposed licence fees remain equal to those at Chaffers Marina which currently include utilities within their licence fees (for most sizes).

In earlier sections of this report we have noted our view that a long term refurbishment fund should be considered for the facility. We note that the current cash funding of the depreciation cost is being directed to borrowings. Based upon industry practice we would expect a refurbishment fund contribution to be charged through the opex fund.

7.5 CONTINGENCIES

The financial model has used a base contingency of 20% on all capital expenditure but excludes any contingency on professional fees. The model goes on to confirm an assumption of 70% of the contingency be utilised within the project.

Review Comments:

In marine projects we have been associated with we would normally use a 25% contingency rate on a project prior to detailed design being completed. Thereafter we would normally see marine projects reduced to 15% at time of quoting and after receipt of consent and then reduce to 12% prior to project commencing.

We would not normally recommend including a project utilisation figure within a model such as this one. We are comfortable with the 20% contingency rate used in the model as we are aware that some items have been quoted upon (although without detailed design), but are concerned that the model has only utilised 70% of this within the actual workings effectively making the contingency 14%.

In addition, we would suggest a contingency fee be calculated on all professional fees. We consider an appropriate contingency of 10% at this time.

We note an oversight within the model where the professional fees (10%) of the capex work incorrectly includes the \$554,000 for wave mitigation, but due to the structure of the spreadsheet, does not include professional fees for the new \$100,000 PC sum allocated for the same purpose.

7.6 PUBLIC AMENITY

A review of the public amenity financial considerations do not form part of the scope of this review. However our earlier comments regarding the potential alternative Masterplan options for the boat harbour do suggest that with careful design, components of public amenity such as the central plaza pontoon could be considered within the marina business model.

7.7 CONCLUSION

In summary, we are of the opinion that in order for the business case to be financially sound, the following actions are required:

- Review and amend number of moorings and marina berths used in the financial model to ensure they are correct
- Review pricing and occupancy assumptions to ensure they are realistic and achievable. Currently, they appear to be aggressive and we consider there is a risk that the forecasts will not be achieved.
- Ensure the additional opex allowance covers the items described in section 7.4
- Ensure maintenance can be funded over the long term. Consider establishing a refurbishment fund (charged as a percentage of opex) for this purpose.
- Correct the calculation of professional fees in the financial model
- Add a separate contingency for professional fees
- Allow for the full contingency rather than only utilisation of 70% of the contingency.

If our recommendations are adopted then a variety of financial scenarios will be considered as part of the financial feasibility of each masterplan layout prior to the completion of the favoured layout (with its associated financial output) being included within the business case.

8 ECONOMIC BENEFIT

WCC has requested that this review includes an assessment of the economic benefits associated with the proposed Masterplan, along with a recommendation as to whether they are considered appropriate and realistic.

8.1 ECONOMIC IMPACT REPORT

The draft Economic Impact Report, which has been prepared by RPNYC, summarises how each of the activities in the Wellington Yachting Strategy can contribute to a plan of action which uses yachting to help promote Wellington City and grow economic activity in the Wellington region.

There are three intended outcomes of the Wellington Yachting Strategy, and ten activities have been identified whose impacts are evaluated within each of the outcomes as follows:

A. Establish the Clyde Quay Precinct as a world class base for ocean sports

1. Wellington Ocean Water Sports Centre
2. Wellington International Sailing Academy
3. Te Aro Model Yachts and Harbour Sails
4. Powered by the Wind Education Centre

B. Establish the Wellington Harbour Festival as an iconic annual festival including world class international yachting events in the Wellington Harbour Arena

1. New Zealand Match Racing Cup
2. New Zealand Sprint Sailing Championship
3. Wellington International Boat Show and Conference Series
4. Community, Regional and National Events

C. Establish the Wellington Spirit Sailing Team as a leading team on the world stage

1. Wellington Spirit
2. Wellington Marine Industry Hub

The report provides a summary of the overall impact of the Wellington Yachting Strategy along with a more detailed summary of the impact for each of the activities quantified in terms of:

- Expanding existing and growing new business in Wellington
- Promoting Wellington
- Increasing visitor numbers to Wellington
- Enhancing the vibrancy of Wellington

8.2 RECOMMENDATIONS

The Economic Impact Report is not yet complete and was provided to us at a late stage of the review process. There is no supporting documentation or analysis underpinning the assumptions around the number of participants and average spend contained in the economic impact spread sheet.

We therefore believe that at this stage it is not possible to provide an assessment as to whether the purported economic benefits are appropriate and realistic.

We have however reviewed the draft Economic Impact Report and Spread sheet provided, made some initial comments, and asked some questions (refer Appendix E).

Our recommendation is that in completing the Economic Impact Report, these comments and questions be addressed.

9 KEY RISKS

Appendix D lists a number of risks associated with the project taken from a recently received draft of a RPNYC paper to the Feb 2013 Strategy and Policy Committee of WCC.

Below we list a number of risks that we consider would carry some of the higher risks associated with this project.

Risk	Severity	Impact	Mitigation Measure	Details
Wave Mitigation Costs are underestimated	High	Financial	Complete a comprehensive wave study. Review mitigation costs, review budget	Risk results from reduction in mitigation budget
Wave Study Identifies long period waves entering the harbour	High	Financial & Asset	Reconfigure the boat harbour	The reconfiguration would remove the marina berths along the eastern sea wall
Marina berth mix does not align with demand	High	Financial	Complete a detailed Masterplan design of the entire boat harbour without limitations	Risk results from the current assumption of the retention of fore and aft moorings
Geotech study identifies hardened seafloor materials requiring piles be drilled	Medium	Financial	Increase contingency until geotechnical report is received	Risk is unknown until more is understood regarding the makeup of the seabed
Geotech study identifies contaminants that require mitigation	Medium	Financial & Regulatory	Increase contingency	Could greatly increase disposal costs and could be resource consent issue
Future Sea level rise	Medium	Financial & Asset	Consideration given during design solutions phase.	Boat sheds and new promenades and walkways could be vulnerable.

Masterplan Layout of boat harbour limits future redevelopment	High	Financial	Complete a detailed Masterplan design which considers staged future redevelopment	Risks results from marina berths being installed in the wrong location
Marina Layout is non compliant	High	Compliance	Use appropriate master planning techniques to guarantee eve with a staged redevelopment berths are all compliant	Standards are helpful to gauge user acceptance based upon comparable alternative facilities.
Marina Berth rentals are too high	High	Financial (Occupancy)	Reduce rental rates within the model & consider a longer period for the introduction of the new rates	Risk results from unknown acceptance of the new rates
Marina Berth rental increases are too aggressive	High	Occupancy/Financial	Review the rental rates & reconsider the compounding 3% inflation rate	Risk could result in Clyde Quay boat harbour having the highest rental rates in the region
Marina berth rental fees are unacceptable to the existing customers	High	Financial	Review rental rates, consider phasing for existing customers	
Fore and Aft moorings are no longer in demand	High	Occupancy/Financial	Review the long term viability of such dated methods of mooring craft in prime water spaces	Risk is accentuated due to the aggressive rental fee increases
Insufficient dredging for future demands	High	Occupancy	Review draft requirements and incorporate additional defined dredging within Masterplan if required	Localised dredging for events could solve the dredging impacting upon occupancy and sailing events
Resource Consent fees increase	High	Financial	Recast budget to include increase in RC fees	

Resource Consent Issues – Traffic/Parking	High	Project	Consider additional RC professional fees to provide experts from multiple disciplines	
Adjustments to buildings				
Resource Consents are declined	Medium	Project	Stakeholder & public consultation.	
Implementation of new management model produces undesirable outcomes	High	Financial & Asset	Completion of full risk analysis regarding alternative models	Political importance of getting the decision right.
Subcontracting the management	High	Operation/Financial	Complete a further detailed analysis of risks associated with the alternatives if the RPNYC is accepting of a day to day management role	Include items from Table 10, including, short term planning, self interested parties, Council objectives not being met. These risks need likelihood assessments
Conflict of Interest Issues with RPNYC and Chaffers Marina Directors	High	Project	As part of any management agreement any conflicts of interest will need to be carefully considered.	
Consolidation of Councils including Hutt City Council adjusting marketplace	High	Project	Look for benefits should there be changes with the makeup of the various councils.	

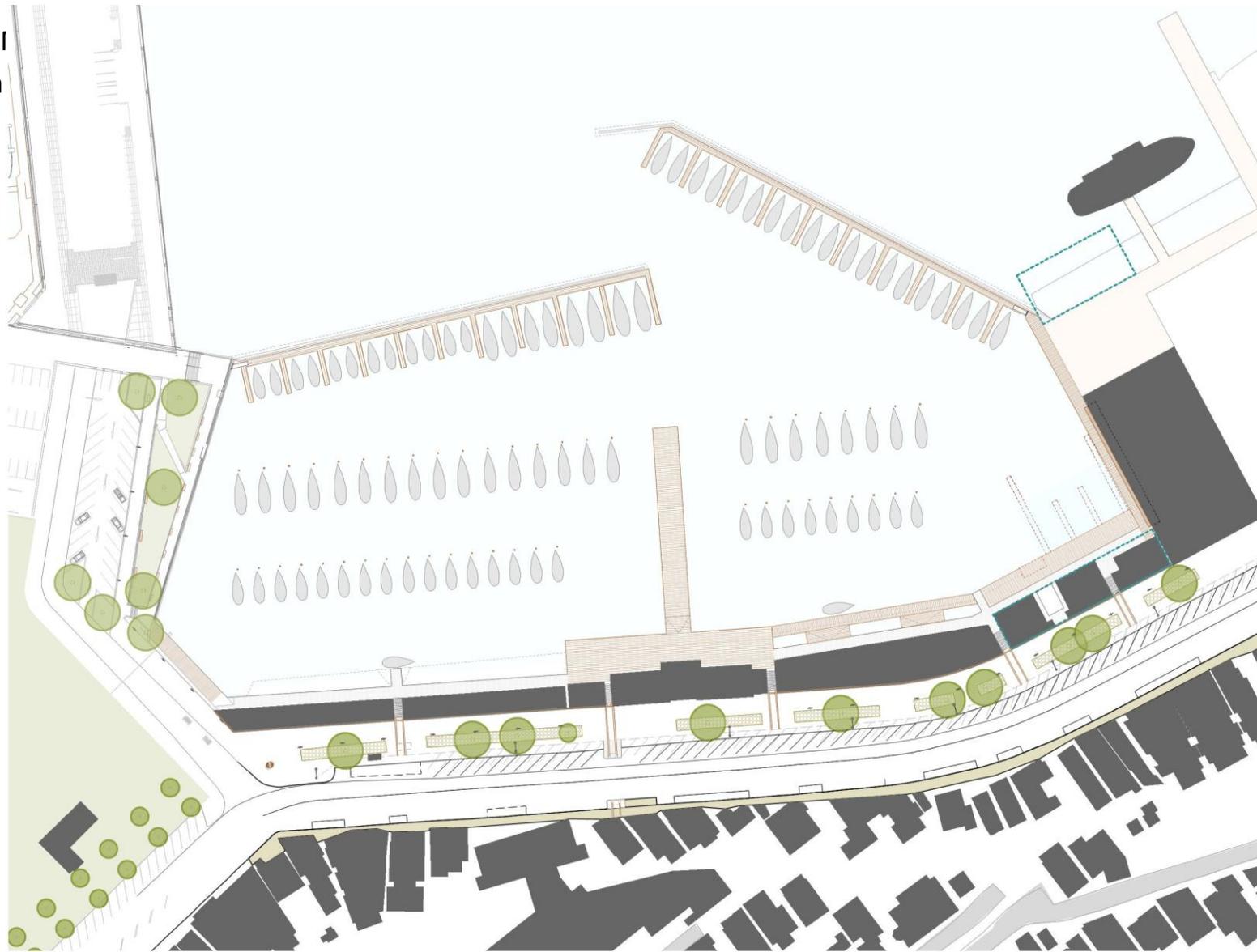
10 RECOMMENDATIONS

This review has considered in detail the current Masterplan proposal and the associated financial modelling. From our observations we make the following recommendations:

1. A comprehensive wave study must be completed (as also recommended within the Beca report) to establish the types of waves or wakes that are entering the boat harbour. Due to the importance of such a study, no further work should be completed on the Masterplan until the findings of such a study are understood.
2. Post completion of the wave study, a number of engineered design solutions to mitigate the waves or wakes should be completed, along with various estimates of construction costs.
3. With the wave study and a number of design solutions in hand, the comprehensive geotechnical investigation discussed should:
 - a. Focus on the impact of dredging within the boat harbour, particularly near the sea walls and existing shore side breast work.
 - b. Consider seabed analysis beneath any new structures such as breakwaters and likely locations for the placement of piles or any ground anchors.
4. A detailed seabed survey should be completed to record the current depths within the boat harbour, and to understand further the volume of abandoned mooring blocks.
5. Any existing abandoned mooring blocks identified on the sea floor within the boat harbour should be removed as part of regular 'business as usual' management of the boat harbour, and such costs should be included in the annual licence fee calculations.
6. Once the seabed survey and the geotechnical report are received and understood, calculate dredging volumes based upon various alternative design depths within the boat harbour. The dredging design alternatives should look to provide for localised or larger areas of deeper water to support the deeper sailing vessels that are most likely to occupy the boat harbour's marina berths adjacent the RPNYC.
7. The existing Masterplan that includes retention of the two rows of fore and aft moorings should be reconsidered due to the risks associated with this type of mooring's long term viability within the boat harbour.
8. A study of alternative designs for the boat harbour (a masterplan process) should be commissioned to provide some comprehensive Masterplan alternatives that consider likely demands on the boat harbour for the next 30-40 years. Such design alternatives should look to:
 - a. Maximise the available water space
 - b. Consider additional marina berths
 - c. Consider pile berths rather than fore and aft moorings (if a low cost berthing option is to be considered)
 - d. Provide future staging of the layout and design solutions if appropriate
9. The proposed marina berths around the boat harbour entrance should be re-designed to ensure compliance with Australian standards for fairway widths

10. Consider reducing the width of pontoon for the Public Plaza and remove moorings as necessary to provide sufficient fairway width or consider alternative design
11. The proposed solutions for the retention of the concrete ramps and aprons on the western side of the RPNYC should be reconsidered particularly considering the proposed modifications to the existing ramp which is intended to improve public access along this section of the boat harbour.
12. As we have identified complications that may arise when only the management of Clyde Quay boat harbour is assigned to others we recommend that future management and/or ownership options for both WCC facilities are considered that includes not just Clyde Quay boat harbour but Evans Bay Marina.
13. Seek a legal opinion to investigate if assignment of the management role to RPNYC without a formal expression of interest process will comply with Council procurement guidelines and any relevant legislation.
14. Regardless of the outcome of any decision to subcontract the management of Clyde Quay boat harbour to others, the existing licence fees that do not vary depending upon the length of the occupying vessel should be phased out and a new fee schedule that does recognise vessel length should be introduced which will fall in line with industry best practice.
15. New revisions of the current Masterplan and the associated financial model should be produced so to limit confusion and errors within the detail arising from either document, particularly as the RPNYC and WCC refine the detail.
16. Resource consent issues should be explored including parking, traffic and visual assessments.
17. The total number of Marina berths and moorings within the Masterplan should align with the financial model. Current discrepancy of additional berths and moorings are being included currently which increases income.
18. The existing slipway is considered a hazard to the public's safe access through the area. The now unused slipway bogie should be removed and a temporary public walkway installed over the slipway ramp and rails.

APPENDIX A: I Masterplan



Notes:

- A - Western Edge; by OPT
 - B - Ramp connecting Promenade to Clyde Quay
 - C - Clyde Quay Central; Yacht Club
 - D - Eastern Edge; by Freyberg Pool
- 1 - Access arrangements into sheds to be confirmed with user group at detailed design
 - 2 - Investigate costing for one additional tree to match existing

Legend:

- Stairs connecting boardwalk and street levels
- Wooden slabs boardwalk / jetty
- New materials to aide wayfinding
- Proposed walk on berths
- Proposed mooring
- Potential location for Wellington Ocean Water Sports Centre
- Existing sculpture

REV	DATE	BY	REASON
A	03.10.2011	SU	CONCEPT DESIGN

Project: CLYDE QUAY PRECINCT PLAN

Drawing Title: PROPOSED PLAN

Drawn	SU	Checked	
Date	03.10.2011		
Scale	1:1000 @ A3		
Job No:	Drawing No:	Revision:	

PD-005 A

PD-005 Proposed Plan
1:1000



Do not scale off the drawings. The Contractor must verify all dimensions on site before commencing any work. Copyright ©

APPENDIX B: MARINA BERTH COUNT BY BERTH LENGTH

Berth Length	Evans								Total
	Chafers	Bay	Haveloch	Mana	Nelson	Picton	Seaview	Waikawa	
8		11	5	-	72	12	-	97	197
9				1	64				65
10	16	28	65	42	156	27	54	146	534
12	45		134	177	114	25	118	127	740
13		54			32				86
13.5	44								44
14		8	63	59		24	31		185
15			22		54	18		71	165
16	30	23	44	6	11	17	33	2	166
17	12								
18	15	13	6	17	24	12	16	17	120
19					8				8
20	3		21	1	2	19			46
21		4			2				6
24									0
25				2	6				8
Cat 15					8				8
Cat 18					2		10		12
Other							22		22
30m+			12		2	13			27
Total	165	141	372	305	557	167	284	460	2,451
% of Market	7%	6%	15%	12%	23%	7%	12%	19%	

APPENDIX C: MONTHLY RENTAL AND LICENCE FEES (AS AT NOVEMBER 2012)

Berth Size	Chafers	Mana	Nelson	Evans Bay	Seaview	Average
8		-	\$ 172.00	\$ 126.67	-	\$ 149.33
9			\$ 193.50			\$ 193.50
10	\$ 368.33	\$ 334.00	\$ 215.00	\$ 215.00	\$ 273.75	\$ 281.22
12	\$ 433.33	\$ 410.00	\$ 258.00		\$ 338.67	\$ 360.00
13			\$ 279.50	\$ 215.00		\$ 247.25
13.5	\$ 533.00					\$ 533.00
14		\$ 510.00		\$ 215.00	\$ 400.00	\$ 375.00
15			\$ 322.50			\$ 322.50
16	\$ 615.33	\$ 622.00	\$ 344.00	\$ 215.00	\$ 456.25	\$ 450.52
17	\$ 706.33					\$ 706.33
18	\$ 784.33	\$ 729.00	\$ 387.00	\$ 215.00	\$ 569.42	\$ 536.95
19			\$ 408.50			\$ 408.50
20	\$ 1,027.00	\$ 819.00	\$ 430.00		\$ 701.83	\$ 744.46
21			\$ 451.50	\$ 215.00		\$ 333.25
25		\$ 1,071.00	\$ 537.50			\$ 804.25
Cat 15			\$ 322.50			\$ 322.50
Cat 18			\$ 387.00		\$ 515.00	\$ 451.00
30m			\$ 645.00			\$ 645.00

APPENDIX D: RISKS RECORDED BY RPNYC IN DRAFT PAPER TO WCC SPC FEB 2013

Risk	Proposed mitigation
Surge reduction costs are greater than predicted	The Club is of the opinion that the need for surge reduction will be minimal and that the structure of the walk on berths will be able to be designed so that they reduce significantly what is already a very rare occurrence. An allowance of \$55,970 has been built into the business case for feasibility and design of a solution to dampen the occasional surge. An additional allowance of \$100,000 has been built into the business case to cover the construction of this solution.
Capital costs are greater than predicted	Initially three quotes were received for the capital costs of the project. These have been increased by 7.5% in the business case to take account of inflationary increases between the time they were received and when construction is likely to start. A 20% contingency sum has also been added to the business case to cover any unforeseen expenditure.
Useful life is less than thirty years	The quotes for the upgrade work are based upon a useful life of thirty years and the main components will last for this long. Some aspects of the berthing and mooring systems are likely to fail before this time. Funding has been built into the financial model to cover the replacement and maintenance of these items.
Number of berths is different than predicted	The Australian standard for marinas was used in calculating the number of berths in the marina. It could be that the final design solution has more twelve and fourteen metre berths and less ten metre berths. If this is the case then the number of boats will be less
	but the revenue will remain comparatively the same. A conservative approach was used to calculate the number of fore and aft moorings in the reconfigured marina. It is likely that more fore and aft moorings can fit in the Clyde Quay Marina than are currently shown in the Master Plan. If this is the case then this will have a positive impact on the financial model.
Unable to collect fees during construction phase	A four phased staging of the construction of the marina has been planned meaning that at any one point three quarters of the berths in the marina will be available. The reduction in spaces available during construction has been built into the business case.
Projected occupancy targets are not met	The business case has set five years as the timeframe for achieving occupancy targets. The number of fore and aft moorings decreases in the harbour so the business case forecasts that these will reach their occupancy targets more quickly than the walk on berths. If necessary some of the negative rates impact could be used to offset any decreased revenue from a slower than predicted uptake of the moorings and berths.
Fee increase not accepted by existing tenants	The Council and the Club will call for registrations of interest in licenses for the sheds, moorings and berths in the reconfigured Clyde Quay Marina. This task will be completed during 2013/2014 with a report back to SPC in December 2013 where it will be recommended that the Clyde Quay Marina Upgrade commence in 2014/2015 if a level of interest is confirmed that aligns with the assumptions in the business case.

Risk	Proposed mitigation
Existing tenants resistance to change	Devolving management of the Clyde Quay Marina to the Club at the same time as the marina is upgraded provides an opportunity for a paradigm shift in the way in which the marina is perceived by existing tenants as well as by the general public and visitors to Wellington. Integrating the upgrade of the Clyde Quay Marina with the broader strategic projects of the Club and the Council (Wellington Harbour Events, Wellington Ocean Sports Centre, and Wellington Spirit) provides a compelling argument for this change.
Financial risk of club taking on head license	The Club is prepared to accept and relieve the council of the risk of recovering rents by taking on the head license. The Club envisages that the management contract will ensure the Club is adequately recompensed for taking on this risk while at the same time ensuring the Club does not profiteer. If necessary the Club could simply act as an agent for the Trust (or the Council if a Trust is not established) and collect the rentals on its behalf.
Chaffers Marina Ltd do not enter into management contract with the Club	The financial model already assumes this is the case. The management fee in the business case covers the costs of managing just the Clyde Quay Boat Harbour.
Assets are not appropriately maintained and/or cash is not generated and retained for the replacement of assets at the end of useful life	The financial model for the business case has allocated additional funding to significantly improve the level of service delivery in the upgraded marina including increasing the amount of ongoing maintenance that is performed. It is intended that as part of the management contract that the Club will develop, implement and review an asset management plan in consultation with the Council.

 APPENDIX E: ECONOMIC IMPACT REPORT – REVIEW QUESTIONS AND COMMENTS
Wellington International Sailing Academy

- How is the Club planning to attract customers, students and visitors? Plans for marketing and promotion?

Wellington Ocean Sports Centre

- What is the assumption of 5,000 participants based on?
- This equates to approximately 100 per week. What are the summer and winter numbers? How many yachts are available to service demand and how many are required?
- What is the \$25 visitor spend based on?
- Is there a budget?

Wellington International Sailing Academy

- Average spend for visitors is assumed to be \$300 per week. What does an average student spend per week in Wellington?
- How confident are they of attracting 42 participants per annum, especially the Diploma Courses which account for 88% of the Economic benefit (\$682,500)?
- Why are there only 5 weeks expenditure at \$300 per week for summer school if the course is for 6 weeks?
- How is the estimate of 6,615 visitors (as per the Wellington Yachting Strategy Document) arrived at, and how does this relate to the number of participants assumed in the spreadsheet?

Te Aro Model Yachts / Harbour Sails

- What is Wellington Harbour Sails role? It is similar to ‘match racing experience Auckland’ in ex America’s Cup boats?
- Is it realistic to race 52 weeks per year in Wellington? What are the summer / winter numbers?
- What is assumed utilisation i.e. will boats be full on each outing? The assumption appears to be that every yacht has 14 people on board. Is this really likely to be the case?

Powered by the Wind Education Centre

- What does the \$20,000 spend for business tertiary students comprise?
- How confident are they of attracting 180 business participants per annum, especially the Tertiary Students which account for 83% of the economic benefit from business (\$600,000)?
- Average spend for visitors (tertiary students) is assumed to be \$300 per week. What does an average student spend per week in Wellington?
- Visitors (school students): $\$4800 \times \$25 = \$120,000$ not \$60,000. Percentage appears inaccurate @ 1%

-
- Visitors (tertiary students): $\$300 \times \35×30 participants = $\$315,000$ not $\$157,500$. Percentage appears inaccurate @ 1%

Wellington Spirit

- What is business revenue of $\$660,000$ based on?
- Visitor Spend is assumed to be $\$400$ per team. This seems light?

Wellington Marine Industry Hub

- What is business revenue of $\$1$ million based on?
- Visitor spend is assumed to be $\$1,000$ per delegation. This seems light?

Club, Restaurant, Marina

- What is business revenue of $\$3$ million based on?