REPORT QUALITY CONTROL

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1 INTRODUCTION

1.1 Report Basis

This report has been prepared for Waiheke Marinas Ltd (WML) in support of a proposal to establish a marina in Matiatia Bay. The report covers the engineering design, environmental and planning aspects of the project and is the `base' document for seeking the necessary resource consents. Specialist marina engineering, coastal processes, geotechnical engineering, archaeology, ecology-water quality, lighting, transportation, noise, and landscape reports, from which some of the information is taken, are bound into two accompanying appendices document.

The report has been prepared in accordance with the provisions in Section 88 of the Resource Management Act (the Act) and associated Fourth Schedule. Section 88 of the Act requires each resource consent application be accompanied by an Assessment of Environmental Effects (AEE) describing the actual or potential adverse effects the activity may have on the environment and the ways in which any adverse effects may be mitigated. Such an assessment is also expected to cover various related matters listed in the Fourth Schedule, including a description of the proposed activity, consultation with interested or affected parties and monitoring. These matters are covered in this report.

The report also identifies the nature of the resource consents which are being sought from the Auckland Council (the Council hereafter), and the key Regional Plan and District Plan provisions which the Council will use for assessing the applications. The main provisions in the Act, NZ Coastal Policy Statement and Auckland Regional Policy Statement, which the Council will also be guided by, are identified and discussed as part of an overall planning assessment of the project.

The report outlines the proposed terms of the consents being sought, along with a number of matters that the applicants are proposing be covered by consent conditions. The consent condition matters relate to aspects of the marina construction and/or marina operation raised in this report and/or the specialist reports. They are directed at ensuring that the environmental effects of the project are acceptable. A set of detailed consent conditions based on the matters identified in this report are to be prepared and will be provided to the Council and other parties in due course.

1.2 Brief Description of the Project

The marina is proposed for a site in the north eastern corner of the bay at the end of Ocean View Rd adjacent to the existing Matiatia ferry terminal and wharf. **Figure 1** shows the location of the marina site and adjacent facilities.

A marina of approximately 160 berths is proposed, along with two rock breakwaters, one of which will be accessible to the public and contain a viewing platform. A floating office is proposed attached to one of the piers. Pile moorings for up to 17 affected mooring holders and an associated set of floating dinghy racks are proposed. The other affected mooring holders are to be accommodated in the marina or on moorings relinquished in other parts of the bay. A reclamation with 55 parking spaces is proposed just to the north of an existing boat ramp. The boat ramp will not be affected, nor will the adjacent mooring holder parking on Ocean View Rd. A viewing deck is proposed on the western (marina) side of the reclamation, which is connected to a boardwalk that leads to the beach to the north.

The proposed marina replaces an earlier 2011 marina design. This earlier design had the same number of berths but relied on floating attenuators to reduce the effects of localised ferry wakes, wind waves and longer range swells. It also had a different marina entrance.

The revised marina design was developed in response to submissions on the ferry wake and wave climate affecting the bay and the navigation and safety issues surrounding ferry and recreational movements in and around the proposed marina entrance and the two wharves. The reclamation component of the project has not been altered, although some minor changes have been made to the parking layout, landscaping and services.

The revised marina design will ensure that craft using the marina will not be affected by ferry wakes and wind waves and have more protected berthing conditions. From a boat navigation and safety perspective craft entering and leaving the marina will also have the least possible impact on ferry and other craft movements around the two wharves.

Figure 2 shows the proposed layout of the marina. The 'primary' (largest) rock breakwater will be approximately 130m long and contain piled end panels for added wave protection, one of which will support the proposed viewing platform, along with a pedestrian footpath along the top. It will be connected to a southern access pier that is in turn connected to a reclamation containing parking spaces and other shore based facilities and services. The 'secondary' (smaller) breakwater will be approximately 75m long and not have piled end panels nor any other footpath or other public facilities. It will not be connected to the adjacent land or have any form of public access.

The southern access pier will be connected to four piers (A-D) containing the marina berths. The berths are expected to range from 10.5m to over 20m. Provision is made for two catamaran berths on Pier C. Provision is also made for the coastguard vessel to be accommodated at the inner most end of the southern access pier.

The entrance to the marina will be between the two breakwaters along the northern side of the bay away from the ferry and wharf related marine traffic. The southern access pier off the reclamation will be the only form of pedestrian access to the marina.

The proposed marina is located in an area of the bay where there are good natural water depths. A small amount of dredging (approximately 5000m^3) is required to achieve adequate water depth for modern craft in the inner most pier (Pier A).

A sewage pump out facility is to be provided on the existing fuel jetty as part of an arrangement with the existing operator. Twenty piles (for seventeen moored craft) are proposed on the northern side of the marina. A set of floating dinghy racks are proposed on the adjacent Pier A for these mooring holders. They will be next to a floating office for a marina manager and the coastguard.

Public access during daylight hours is proposed to the southern access pier and primary breakwater. A viewing platform is proposed towards the outer end of the southern access pier. No restrictions are proposed on public access to the reclamation and boardwalk to the northern beach.

1.3 Resource Consent Applications

The marina and associated facilities are the subject of the following resource consent applications:

1. A coastal permit under Section 12 of the Act and in terms of rules in the Operative Auckland Regional Coastal Plan, for the following activities:

(i) Dredging approximately 5025m^3 of material from the seabed to obtain suitable water depths for craft;
(ii) Formation of a primary rock breakwater, approximately 130m long, along with associated geotextile matting, piled end panels and a footpath;
(iii) A viewing platform of approximately 36m^2 attached to the southern end of the primary breakwater;
(iv) Formation of a secondary rock breakwater approximately 75m long along with associated geotextile matting;
(v) Installation of a southern access pier and four other piers (A-D), with associated finger jetties and gangways, along with placement of piles for positioning and mooring approximately 160 craft;
(vi) A viewing platform of approximately 80m^2 attached to the western end of the southern access pier;
(vii) Provision of a sewage pump out facility on an existing jetty, along with electricity and water services to the marina;
(viii) A reclamation of approximately 3020m^2 for the purposes of providing vehicle parking for marina users and the coastguard, along with vehicle control facilities, a wastewater holding tank, water storage tanks, an electricity transformer and other utility services;
(ix) Removal of approximately 1550m^3 of undercut material from the reclamation footprint;
(x) A viewing deck of approximately 130m^2 attached to the north-western corner of the reclamation;
(xi) A boardwalk approximately 40m long attached to the northern side of the reclamation;
(xii) A floating pontoon containing office, kitchen, laundry, toilet and other facilities for a marina manager, the coastguard and marina users, along with a water storage tank and other utility services;
(xiii) A set of floating dinghy racks attached to one of the marina piers (Pier A);
(xiv) Up to 20 piles accommodating up to 17 craft to the north of the marina, primarily for affected mooring holders;
(xv) Two piles to the south of the marina for the coastguard vessel;
(xvi) Diversion and discharge of stormwater into the coastal marine area, from three new outfalls, treated stormwater from vehicle access and parking areas on and adjacent to the reclamation;
(xvii) Occupation and use the various structures, works and services identified in (i) to (xvi), above and associated parts of the coastal marine area for a period of 35 years;
(xviii) Use of the partially completed reclamation as a temporary construction and storage area;
(xix) Exclusive occupation and use of the marina piers and associated berthing spaces, along with the pile moorings; and
(xx) Restrictions on public access to the marina piers and primary rock breakwater during night-time hours and at other times for safety and security reasons.

2. A land use consent under Section 9 of the Act and in terms of rules in the Hauraki Gulf Islands Operative and Proposed District Plans, for the following activities:

(i) A section of boardwalk approximately 2m long, a rock protected pedestrian ramp approximately 9m long and associated earthworks, all being above mean high water springs;
(ii) Earthworks (land filling) above mean high water springs of approximately 60m^3 associated with a reclamation;
(iii) Transportation by road of approximately 660m^3 of 'clean fill' material for use in the reclamation;
(iv) Use of the reclamation and filled area for marina vehicle access, parking and loading, including the provision of 55 parking spaces on the reclamation;

(v) No provision of a dedicated loading bay;
(vi) No screening of the vehicle parking and loading areas serving the marina;
(vii) Construction of electricity, stormwater, wastewater, water and other utility services on land;
(viii) Use of refuse and recycling facilities and an electricity transformer on the reclamation; and
(ix) Establishment and use of temporary construction and storage areas on parts of the Ocean View Rd reserve.

3. A (stormwater) discharge permit under Section 15 of the Act and in terms of the rules in the Partially Operative Regional Plan Air Land & Water and the Transitional Regional Plan, for the following activities:

(i) diversion and discharge of stormwater from roadway, vehicle access, parking and loading areas of approximately 2340m^2.

Appendix A contains copies of the completed application forms.

The applicants are requesting the resource consent applications be notified under the provisions in Section 95A (2) (b) of the Act.

1.4 Reserves Act Concession Application

The proposed boardwalk is to be connected to the Matietie Historic Reserve, administered by the Department of Conservation (DoC). Under the Reserves Act a concession is required for the landward end of the boardwalk, which ends above mean high water mark and extends onto the reserve, along with a small rock/fill landing and very small amount of associated earthworks.

The concession application to DoC is to be made after the resource consent applications lodged with the Council are notified. The concession application is also expected to go through a public notification process.

1.5 Investigations Carried Out

The 2013 breakwater based marina layout arises from the 2011 design mentioned earlier. Preliminary scoping investigations of this project commenced in early 2009 and detailed site investigations commenced in early 2010. More detailed site investigations in respect of the breakwater based marina were carried out in 2011 and 2012.

The detailed engineering, environmental, legal, planning and other investigations were carried out by the following companies and people:

- Archaeology – Time Depth Enterprises (Don Prince)
- Civil & utility services engineering – Riley Consultants Ltd (Gary Cassidy & Steven James)
- Coastal processes engineering – Met Ocean Solutions Ltd (Peter McComb) and Cardno (NSW/ACT) Pty Ltd (Doug Treloar)
- Commercial and property law – Lowndes Jordon (Graham Jordon)
- Geotechnical engineering – Riley Consultants Ltd (Brett Black and Sataywan Pranjoto)
- Ecology and water quality – Poynter & Associates Environmental Ltd (Mark Poynter)
- Landscape design and visual assessment – LA4 (Rob Pryor)
- Land surveying and site survey plans – Axis Consultants Ltd (Peter Rothwell & Max Horley)
- Lighting – Light Group Ltd (Murray Phipps-Black)

- Marine surveying – Ports of Auckland Ltd (Bruce Wallen)
- Marina design and engineering – International Marina Consultants Pty Ltd (John Leman)
- Marina construction and operations – Wardale Marine Consulting Ltd (Phil Wardale)
- Maritime navigation and safety – Captain Jim Varney
- Parking and traffic –T2 Traffic & Transportation Engineers Ltd (David Mitchell & Andrew Gratton)
- Noise – Styles Acoustics Ltd (Christian Vossart & Jon Styles)
- Planning and resource consents – Andrew Stewart Ltd, (Max Dunn, Bevan Hudson & James Hendra)
- Resource management law – Richard Brabant & Jeremy Brabant.

The findings of the respective investigations are outlined later in this report and in the accompanying appendices documents.

1.6 Consultation

Waiheke Marinas Ltd (WML) and their advisers consulted Council staff, community organisations, landowners and other parties affected by or interested by the 2011 marina project. The following organisations and people were consulted from mid 2010 to early 2011:

- Auckland Council and former Auckland City Council
- Department of Conservation
- NZ Historic Places Trust
- Waiheke Community Board
- Ngati Paoa
- Ngai Tai ki Tamaki
- Waiheke Mooring Holders Association
- Individual mooring holders
- Ferry operators (Fullers Group Ltd & Pine Harbour Ferries Ltd)
- Other ferry operators who sometimes use the nearby wharves
- Other known boat ramp and wharf users
- Landowners adjacent to the marina site
- Landowners in the wider Matiatia Bay area
- Auckland Yacht and Boating Association
- Waiheke Volunteer Coastguard

The principal change made during the 2010-2011 consultation was a redesign of the reclamation so it did not touch the Matietie Historic Reserve administered by DoC as requested. The proposed reclamation was altered so it only connected to the road reserve administered by the Council.

Following receipt of formal submissions on the 2011 project WML initiated a peer review of the marina design. The 2012 peer review focused on the following key issues raised in submissions:

- The ability of the floating attenuators to deal with ferry wakes, wind and wave climate;
- The entrance to the marina and its effect on ferry and recreational boat movements in the bay;
- The extent and nature of construction traffic and methods to mitigate the effects;
- The adequacy of the proposed reclamation parking to accommodate weekday users and use of Council parking areas for weekend use; and
- The effects of an operational marina on traffic movements around the ferry terminal.

Specialist engineering and other investigations were carried out and a revised marina layout and construction methodology developed. Some refinements were also made to the layout of the reclamation parking area, to enable better access and parking and make provision for refuse and recycling facilities.

A further 'round' of consultation on the revised marina layout was undertaken between November 2012 and February 2013 involving most of the abovementioned parties and some 'new' Council and community organisations.

The 'new' Council organisations consulted in 2012 and 2013 were:

- Auckland Council Property Ltd
- Auckland Transport
- Hauraki Gulf Forum
- Waiheke Local Board

A number of local community organisations who made submissions on the earlier application were also contacted in early 2013. These include Gulf Anchorages Protection Society, Hauraki Gulf Enhancement Society, Hauraki Gulf Branch of Royal Forest & Bird Protection Society, and the Waiheke Community Planning Association.

The main outcomes of the 2012-2013 consultation and related changes to the project are:

<u>Mooring Holders</u>

- An increase in the number of pile moorings for affected mooring holders;

<u>Council Harbourmasters Office</u>

- Restrictions on fishing from the viewing platforms adjacent to the southern access pier and primary breakwater for boat navigation and safety reasons;
- Provision for casual berthing by the general public within the marina rather than alongside the southern access pier, also for boat navigation and safety reasons;
- The floating dinghy racks within the marina being only available to the pile mooring holders adjacent to the marina and alternative facilities being provided on the southern side of the bay for moorings holders in this area if they want them, also for boat navigation and safety reasons; and
- The pile moorings being managed by the marina trust rather than by the Harbourmasters office as they will be using the associated floating dinghy racks within the marina.

<u>Mr Briggs (adjacent landowner)</u>

- Alterations to the marina parking area entrance/exit and the location of the electricity transformer to have less impact on the adjacent parking and access to the historic reserve.

Further details on the consultation are provided in Section 4.13 of this report.

2 PROPOSED MARINA

2.1 The Site & Surrounding Area

The marina site adjoins Ocean View Rd and the Matietie Historic Reserve. The road is managed by the Council, whilst the reserve is managed by DoC. **Figure 3** shows the extent of the road and reserve, along with nearby private properties. **Figure 4** contains photographs of the marina site and surrounding area.

Matiatia Wharf Area

The existing site plan in **Figure 5** shows the extent of the wharves and other facilities. The main wharf located towards the centre of the bay is the focal point of ferry passenger services to the island. The 'old' wharf and ramp to the north are used by a number of commercial and private boat operators. The 'new' wharf contains a large ferry terminal building, with a café, offices and toilets. Diesel fuel is sold from a floating pontoon attached to the old wharf.

The nature of the foreshore and seabed in the bay and associated water depths are shown in **Figure 5**. The seabed contours shown are derived from a 2010 survey undertaken by Ports of Auckland Ltd (POAL) and related to Chart Datum (CD). The land based contours are based on 2010 survey by Axis Consultants Ltd (Axis) and the same survey datum. **Appendices B & C** contain survey reports from POAL and Axis.

The **Figure 6** site plan of the wharf area shows the extent of the road reserve in more detail. The road reserve widens put towards the northern end where it adjoins the historic reserve. At this point there are some on road and off road parking spaces, along some dinghy racks.

The parking spaces are reserved for buses, shuttles, taxis mooring holders and disabled people as outlined later in this report. Some of these facilities are on some reclaimed land, which is also explained later in this report. The aerial photograph in **Figure 7** and the photographs in **Figure 8** show the car parking and dinghy rack facilities.

The road reserve to the south includes part of the Council car park by the ferry terminal. The remaining Council parking areas further inland are on freehold titles.

Matietie Historic Reserve

The extent of the Matietie Historic Reserve (Lot 1 DP 130545) is shown in **Figure 5**. It comprises a total area of approximately 9.63ha.

The seaward boundary of the reserve was set at the time of subdivision in 1987 as being mean high water mark. As outlined in the Axis Consultants Ltd (Axis) survey report in **Appendix C** current mean high water mark is approximately 2.65m above Chart Datum (CD). The current mean high water springs mark is slightly further inland at 2.8 metres above CD.

Part of the existing reclamation boat ramp extends to the north of the boat ramp alongside the historic reserve. The outer edge of the reclamation is marked by a rock wall, the extent of which is shown in the **Figure 8** aerial photograph.

Figure 9 contains photographs of the reserve including the rock wall.

Surrounding Area

The land to the north and east of the marina site is in private ownership. There are around twelve properties on the seaward side of Delamore Drive and Alan Murray Lane overlooking the site, some of which are undeveloped.

Some of the landowners have a right of way easement for vehicles and stock over the historic reserve, during weekdays. It was created in 1987 when the historic reserve was set aside.

2.2 Existing Moorings

Matiatia Bay

Matiatia Bay is one of the main boat mooring areas for people on the island. There are two declared "Mooring Management Areas" (MMA's) as shown on the Regional Coastal Plan (RCP) map in **Figure 10.** WML investigations indicate that the northern MMA, where the marina is proposed has 54 moorings, whilst the southern MMA has 39 moorings. A significant number of the moorings appear to be outside the declared mooring areas. The effects of the marina project on existing mooring holders are discussed later in this report.

Waiheke Island

Council records indicate that the bays around Waiheke Island contain a total 636 moorings, of which 509 (80%) are within MMA'S.

Table 1: Waiheke Island: Registered Moorings

Location	MMA No.	Existing Moorings.	RCP Maximum	Mooring Capacity
Matiatia Bay	62	93	98	
Sandy (Hekerua) Bay	63	16	13	Full
Huruhi Bay West (Blackpool)	64	33	30	Full
Huruhi Bay East (Esslin Bay)	65-66	25	21	Full
Kennedy Point	67	35	30	Full
Kennedy Bay & Shelly Beach	68-69	75	71	Full
Putitki Bay & Causeway Beach	70-71	58	36	Full
Putiki Bay (Old Wharf)	72	77	48	Full
Anzac Bay – Ostend	73	3	17	
Kanakarau Bay	75	2	11	
Rocky Bay	76	64	60	Full
Waiheke East	78	31	26	Full
Other areas (outside MMA's)		127		
		636	461	

Source: Auckland Council

Mooring Area Capacity

The Matiatia MMA contains the largest number of moorings on the island. It is effectively full because of insufficient water depth and/or water space. Council staff in 2011 indicated that there were around 70 people waiting for a mooring in Matiatia Bay.

The Council records also indicate that nearly all of the other mooring areas around Waiheke Island are full, also because of insufficient water depth and/or water space. The Anzac Bay–Ostend and Kanakarau Bay mooring areas may contain some mooring space, although access may be a limiting factor. The total number of existing moorings around the island also significantly exceeds the number provided for in MMA'S in the RCP by about 175 as shown in Table 1.

2.3 Regional Coastal Plan Provisions & Benefits of Marinas

The establishment of moorings and marinas is controlled by the Council under the RCP. Most of the moorings in Matiatia Bay and other bays around Waiheke Island are within MMA's.

New swing moorings are allowed within MMA's as permitted activities (subject to specified conditions being met). New pile moorings require a restricted discretionary activity coastal permit from the Council.

Benefits of Marinas

The RCP recognises the boating amenity benefits of marinas, as well as their potential to have adverse environmental effects. It makes general provision for them as discretionary activities within MMA's and also "General Management Areas". The plan contains a number of policies relating to the location, design and operation of marinas which have guided the Matiatia Bay project. These are discussed later in this report.

The benefits of marinas have been recognised for some time by planning authorities and the general public. From a planning perspective they accommodate many more craft per unit area than moorings and as such make more effective use of valued public water space.

Marinas also provide better shelter for craft, along with more convenient and safer access for boat owners and services, such as power, water, refuse and sewage disposal. There are also wider environmental benefits of having publicly available sewage pump out facilities, and strict controls on discharges and refuse disposal in high use coastal areas. Marinas often also enhance public access to and enjoyment of the coast, particularly where walkway and viewing facilities are freely available.

Marinas in the Auckland Region

The Auckland region has fifteen marinas ,containing approximately 5500 berths. They range in size from Westhaven, with approximately 1200 berths to the Bucklands Beach Yacht Club marina at Half Moon Bay with approximately 95 berths.

Most of the existing marinas are within identified "Marina Management Areas" in the RCP. They have generally been included in these particular management areas retrospectively, i.e. after they were consented and built. The Marina Management Area technique has not been used to identify 'suitable' sites where marinas are expected or considered to be appropriate from a planning perspective.

2.4 Basis of the Marina

Waiheke Marinas Ltd

WML is a small private company seeking better facilities for mooring holders and boating visitors to the island. The company is seeking the necessary consents for the marina and will manage its funding. Construction of the marina is expected to be undertaken by one or more engineering/contracting companies under contract to WML. The completed marina is expected to be owned and managed by a Trust as outlined later in this report.

Moorings & Marinas

Historically most of the marinas in the region have been built in established mooring areas. This is because moorings areas often have the best natural water depths and/or access to boat ramps, wharves, parking and other related facilities like at Matiatia. Examples of marinas largely built in mooring areas include Bayswater, Bucklands Beach, Orakei (Okahu Bay) and part of the recently redeveloped Westhaven marina. The recently approved marina at Sandspit is also within a mooring area.

Waiheke Island Mooring Waiting Lists & Nearest Marinas

The existing mooring areas in Matiatia Bay are full and no new moorings are being issued by the Council Harbourmaster's office. As noted earlier there is also a long waiting list of people wanting moorings in the bay. The nearest marinas to Waiheke Island are in the Buckland Beach, Half Moon Bay and Pine Harbour areas, or in the city at Bayswater and Westhaven. Some Waiheke residents have craft in these marinas.

Marina Site Investigation Parameters

The proposed marina is intended to serve Waiheke Island residents and visitors to the island. Matiatia is the main ferry gateway to the island and most of the population lives towards the western end of the island. Marinas are best located in bays and harbours that have some natural protection. There are very few marinas in 'open' coastal areas as they are expensive to build and maintain. Marinas also have a functional need for road access and parking.

Matiatia was identified as the preferred location for a marina, although other mooring areas were considered. The main alternative areas investigated were Putiki Bay, Huruhi Bay and Rocky Bay. Potential marina sites outside of established mooring areas were not considered.

Matiatia Bay

Matiatia Bay is a good location for a marina because it contains the main wharf on the island and has complimentary coastguard, fuel supply, parking and other facilities. It also has good natural water depths close to the shore, thereby minimising dredging.

The northern half of the bay is the most appropriate area for the marina because it has the most moorings and is easier to integrate with the fuel pontoon and other facilities. It also has better natural water depths and road access.

The southern half of Matiatia contains a significant number of moorings, some of which are in very shallow water. There is no legal or physical road access to this area and some of the adjacent land is known to contain significant cultural sites.

Huruhi Bay Area

The Huruhi Bay area, which is shown in **Figure 10**, currently has around 58 moorings.

Most of the moorings (33 in total) are in the relatively shallow Blackpool area (MMA 64) on the western side of the bay. Although the main Blackpool area is well protected from the west it is exposed to the south with no headland or other protection. The extensive shallow areas around the shoreline would make access to the deeper water difficult and expensive. It would involve significant dredging and/or reclamation with attendant environmental effects. Most of the existing moorings in this area are some distance from the shore.

The two smaller mooring areas on the eastern side of the bay (MMA 65 & 66) are closer to the shore. However access to them from Donald Bruce Drive and Kennedy Point Rd is limited and both areas are reasonably exposed to the southwest.

Putiki Bay

The existing mooring areas in Putiki Bay are also shown in **Figure 10**.

The outer most area (MMA 67) on the western side is adjacent to the Kennedy Point ferry landing terminal and wharf. It is a potentially suitable marina site although has limited parking and land for on shore facilities. The nearby area (MMA 68) has very poor road access. The inner most area (MMA 69) has reasonable road access from Shelley Beach Rd but the deeper water is a considerable distance off shore.

The two mooring areas (MMA 70 & 71) in central Putiki Bay have very good road access from Causeway Road and Wharf Road but are very shallow. Extensive dredging, reclamation and/or dredging disposal would be involved for a marina in this location.

The Putiki Bay - Old Wharf mooring area (MMA 72) has good road access (Wharf Rd) and is in relatively deep water. It is however fairly exposed to the southwest and not as suitable as Matiatia Bay. The mooring area to the northeast (MMA 73) is in shallow waters and has poor road access.

Rocky Bay

The mooring area in Rocky Bay (MMA 76) contains relatively deep water and has some natural headland protection from the southwest. It has limited road access and is adjacent to an Area of Significant Conservation Value and Regionally Significant Landscape as shown in **Figure 10**.

Making Most Effective Use of Water Space in Matiatia Bay

The proposed marina of 160 berths will effectively displace all of the 54 moorings in the northern part of the bay.

Two or three moorings in the northernmost corner of the bay may not be directly affected and possibly could remain in place. However the Council Harbourmaster's office has suggested that these moorings be replaced with pile moorings like those proposed for the affected mooring holders. WML are proposing to do this having discussed it with the current mooring holders. **Figure 11** shows the affected moorings.

The marina, along with the pile moorings will result in over three times the number of craft being berthed or moored in the same area of water space.

Marina Relationship to Wharf & Wider Bay

The marina will compliment both the existing wharf area and the mooring area in the southern bay. The maritime focus of the inner bay will be reinforced and the 'natural character' of the outer bay will be largely unaffected.

The reclamation is proposed in an area that has been reclaimed in the past. The associated boardwalk will provide all tide access to the whole northern wider bay that is lacking at present.

Marina Size & Design

The size of the marina has been determined having regard to the extent of the wharves, the existing mooring area on the northern side of the bay, preliminary interests in berths, the wave climate and other environmental factors. The design of the marina will ensure that craft using it will not affect ferry and other craft movements around the two wharves and are adequately protected from the swell, wind wave and ferry wake climate in the bay.

The marina will be one of the smallest in the region, next to the Bucklands Beach Yacht Club marina (95 berths) and Orakei marina (172 berths).

The reclamation has been kept as small as possible taking into account the need for some onsite parking, the underutilisation of the nearby Council parking areas during weekends and the 'local' (non -club) nature of the marina. These matters are discussed in more detail later in this report.

Serving Local People

WML have registrations of interest in marina berths from approximately 250 people. Of this total number 46 people have moorings in Matiatia Bay and several are from people who have moorings in other areas around Waiheke Island. Over 90% of the remaining registrations are from Waiheke Island residents, who have no mooring around the island. Based on the current registrations of interest the marina will effectively be a 'local' one that serves people who have moorings and/or houses on Waiheke Island.

2.5 Marina Layout

Figure 12 shows the proposed layout of the marina. It is described in the IMC engineering report in **Appendix D**.

The marina consists of two rock breakwaters, a southern access pier, that also acts as wave attenuator, four internal piers (A-D) and associated walkways and fingers. The proposed layout provides for 160 berths ranging from 10.5m to over 20m.

Separation from Wharf

The marina will be sufficiently separated from the nearby ramp, wharves and other facilities. There will be a 'gap' of at least 37m between the end of the old wharf (being the closest structure) and the southern access pier. This point is illustrated in **Figure 12.**

The proposed 'gap' arises from advice from engineering advisors to the former Auckland City Council Transport Department, which administered the wharf prior to formation of the new Auckland Council. This matter has been discussed more recently with Auckland Transport staff, who administer the wharf on behalf of the Council.

Berth Mix

The proposed berth mix in the marina is shown in **Figure 12** and summarised in Table 2 below. The berth mix shown is indicative only. It may change during the resource consent process as current berth holder interest in certain sized berths is 'firmed up'.

The berth mix has been changed from the 2011 project with fewer smaller berths and more larger berths based on registrations of interest and recent trends in craft dimensions and use. It may also change during the subsequent marina funding and construction phases. However a maximum of 160 berths is expected within the proposed marina 'footprint'.

Table 2: Matiatia Marina: Proposed Berth Mix

Maximum Length of Craft	No. of Berths	%
10.5m	23	14
12m	27	17
13.5m	26	16
14m	26	16
15m	20	13
16m	19	12
20m	15	9
20m+	2	1
Catamaran	2	1
	160	100

Source: IMC Report

2.6 Rock Breakwaters

Primary Breakwater

The primary breakwater will be approximately 130m long by 30m wide and have a 'footprint' of approximately 3900m^2 as shown in the IMC plan in **Figure 13**. It will have an inner 'core' of rock rubble, a geotextile liner and an 'outer' armouring of specially selected rock as described in the IMC engineering report. Two layers of geotextile material separated by a 200mm layer of sand are proposed underneath the breakwater to increase stability as outlined in the Riley geotechnical engineering report in **Appendix E**.

The primary breakwater will have 1:5 side slopes rising about 8.5m vertically above the seabed (-4.0m CD) to a 4m wide 'top' containing a 1.5m wide footpath at a height of +4.5m CD, as shown in **Figure 13**. At mean low water springs (+0.3m CD) the uppermost 4.2m of the structure will be visible, whilst at mean high water springs (+2.8m CD) approximately 1.7m will be visible.

The piled panels at each end will run the length of the side slopes and be at the same height as the breakwater. As shown in **Figure 13** the piled panels will be about 12m long at the 'top' and be flush at the 'bottom' with the base of the breakwater at the 'bottom'. The panels will consist of either concrete or timber piles minimal gap between each pile. There will be approximately 14 piles at each end. The viewing platform at the southern (outer bay) end will be approximately 3m wide by 12m long, i.e. 36m^2 in area.

Secondary Breakwater

The secondary breakwater will be approximately 75m long by 25m wide and have a 'footprint' of approximately 1875m^2 as shown in **Figure 13**. It will be constructed in the same manner as the primary breakwater as described in the IMC engineering report.

This breakwater will have the same 1:5 side slopes. It will rise 6.0m to 8.5 m over the variable sea bed (-4.0m CD to -1.5m CD) to a 2m wide 'top' as shown in **Figure 13**. No footpath is proposed as there will be no public access to the structure.

The above water visibility of the secondary breakwater will be similar to that described for the primary breakwater. As noted earlier the seabed under the secondary breakwater is more variable. However as shown in **Figure 13** at mean low water springs (MLWS) generally the uppermost 4.2m of the structure will be visible, whilst at mean high water springs (MHWS) approximately 1.7m will be visible.

Marina Entrance

The 'bases' of the primary and secondary rock breakwaters will be approximately 30m apart. The seabed contours in and around the marina entrance vary as shown in **Figure 12**. The water space available will vary according to the contours and tide. However generally there will be at least 2.5m of water at MLWS.

Foundation Conditions & Staging of Primary Breakwater

The Riley geotechnical engineering report describes the seabed conditions in and around the two breakwater sites. It notes some relatively soft and deep silts and muds in the area of the primary breakwater and recommends it be built in two stages, with a period of 12-18 months allowed for consolidation of the first stage. Geotextile matting underneath the structure is also recommended to assist stability. Two layers of geotextile separated by a 200mm layer of sand are proposed.

The first stage of the primary breakwater involves constructing it to a height of up to 5.4m above the seabed (+1.4m CD) as shown in **Figure 13**. In the second stage at least another 3.0m is added to bring it up to the finished 8.5m vertical height (+4.5m CD). The staging of construction will be similar to the process used to build the Kennedy Point breakwater as outlined in the Riley report.

Geotextile matting is also proposed under the secondary breakwater to assist stability. This structure is expected to be built in one stage.

Breakwater Construction

The Wardale Marine Consultants Ltd (Wardale) report in **Appendix F** describes the expected breakwater construction process and timing. All of the core material and armouring rock is to be barged to the site, along with the geotextile matting, filler layer sand and footpath materials. The armouring is expected to involve rocks of around 800mm diameter sourced from a quarry on the lower Coromandel.

The core rock is likely to be sourced from the same Coromandel quarry, although material from an alternative site could be used and barged to the site. The top of the stage one primary breakwater will lie between mean low water springs and mean low water springs and be visible for parts of the tide. It is to be marked by navigation buoys and piles.

2.7 Floating Structures

Southern Access Pier

The southern access pier is approximately 200m long and 4m wide. It will have 1m deep skirts on each side that serve to attenuate the swell that diffracts around the southern end of the primary breakwater and locally generated wind and boat wakes coming from the south. **Figure 14** contains long section and cross section plans of the structure.

A viewing platform of approximately 80m^2 (4m by 20m) is proposed at the western (outer) end. This structure will be connected by a gangway to the footpath on the primary breakwater.

Piers A-D & Finger Structures

Piers A, B, C, D and E will be of different lengths (approximately 100-150m) but of the same width (2m). They will have 1m wide 'fingers' and mooring piles that provide for the conventional 'end' in berthing of craft. **Figures 15 & 16** illustrate the nature of the structures and associated piling arrangements.

Piling

The floating structures are expected to be held in place with piles, primarily of a concrete or steel tube nature, with a polyethylene outer sleeve for protection purposes. Steel tubes piles are expected to be used on the southern access pier and the outermost Pier D as outlined in the Wardale report. A total of approximately 160 piles will be required for the marina.

Construction

The floating structures, with the possible exception of the southern access pier, and piles are expected to be trucked to the site. The southern access pier, because of its length, may be able to be assembled off site and towed to the bay. Consideration has been given to barge transport of the other materials but it is unlikely to be feasible as outlined in the Wardale report.

2.8 Viewing Platforms

The viewing platforms on the primary rock breakwater and southern access pier are generally described in the IMC report. **Figure 13 & 14** show their proposed design and appearance. They will be of concrete or timber construction and have 0.9m high handrails along their length.

No fishing related facilities are proposed as this activity could interfere with ferry and recreational craft movements in the area. Signage is proposed on this matter.

2.9 Floating Office

A floating office containing marina manager, coastguard, ablution and laundry facilities for visitors is proposed on Pier A adjacent to the entrance gangway.

The office building itself will be approximately 130m^2 sitting on a pontoon of around 210m^2.

Office Layout & Design

The building will contain an office for the coastguard, along with the marina manager, stores, kitchen ('basic' with hot water zip and microwave), laundry, shower and toilet facilities. **Figure 18** contains a floor plan and typical elevation of the facility. The laundry facilities are for people in visiting craft and be similar those found at Bayswater, Orakei and Westhaven marinas.

The pitched roof of the building will be approximately 4.4m at its highest point. The materials to be used on the exterior walls have not specified on the plans at this stage. However they are expected to be finished in recessive materials and colours that are in keeping with the coastal setting.

Reasons for Floating Office

A floating marina office is proposed because they are the most effective for dealing with facility maintenance and berth holder/visitor enquiries and craft movement observation and security. They are found in several Australian marinas and some New Zealand marinas, including Orakei.

The floating office will be similar to that in place at the Orakei marina, although much smaller in size. Consideration was given to establishing an office in the ferry terminal building but it does not have the available space and is approximately 100m away from the marina.

Construction

The floating office is expected to be constructed off site and towed to the marina once the piers are in place as outlined in the Wardale report.

2.10 Marina Services

All berths will be provided with power outlets, low level security lighting and possibly water. The services will be contained in ducts inside the floating pontoons and terminate at the outlet modules.

Power Supply

Vector Energy and Northpower have been contacted regarding the supply of power to the marina. Northpower have advised that power can be supplied to the marina via a directional drilled cable from the existing transformer in Ocean View Rd.

The marina berths of up to 16m are expected to have 16 amp single phase outlets while the larger berths are likely to have 32 amp supplies, with some requiring 3 phase power outlets. The calculated peak demand for power is approximately 400 KVA and a separate power transformer is proposed as outlined in the Riley services engineering report in **Appendix G**. **Figure 17** shows the locations of the proposed new power supply line and the transformer. The transformer is to be located on the reclamation close to the refuse and recycling facilities. Further details on the proposed power supply, including the transformer, are provided in the Riley civil engineering report.

Sewage Pump Out

The sewage pump out facility is to be sited on the existing fuel supply wharf/pontoon as part of an agreement with the fuel supply operator. Its proposed location is shown in **Figure 17**.

The nature of the proposed pump out and its expected use is outlined in the Riley civil engineering report. The wastewater from the sewage pump out is to be piped to a holding tank in the proposed reclamation and regularly emptied by a waste management contractor using a truck.

Wastewater From Floating Office Kitchen, Laundry & Toilets

The wastewater from the kitchen, laundry and toilet facilities in the floating office will be connected to the sewage pump out system. All collected waste will be regularly removed from the storage tank. The Riley report identifies the expected wastewater load from these facilities.

Wastewater Holding Tank in Reclamation

The location, design and maintenance of the holding tank are outlined in the Riley civil engineering report. **Figure 17** shows the location of the proposed storage tank within the reclamation.

Water Supply

The proposed water supply arrangements are outlined in the Riley civil engineering report. It notes that the existing wharves and associated facilities are supplied with water from two Council bores and associated storage tanks. For the earlier 2011 marina project Auckland Council Property Ltd (ACPL) advised Riley's that a water supply connection to the marina was able to be provided from the most recent bore, known as the Harbourmaster's bore, subject to appropriate conditions being met. Amongst these conditions were a likely supply limitation of up to $1m^3$/day and for an initial period of only five years with a review clause.

The Harbourmasters' bore is the subject of water right (No. 28671) enabling up to $200m^3$/day and $17{,}000m^3$ a year to be taken. Under a recent variation water from the bore is able to be on sold to the general public. As outlined in the Riley report the marina office and laundry are expected to require up to $0.5m^3$/day and able to be supplied from the bore, if only up to $1m^3$/day is available. WML have recently discussed with ACPL the possibility of obtaining an additional water for the marina berths (estimated at up to $3.5m^3$/day). As outlined in the Riley report any water supply for the marina berths is not expected to involve its use for fire fighting, with fire extinguishers on the marina and seawater as a 'back up' being proposed.

The Riley report outlines the construction works involved in providing water to the marina. A service line is proposed from either the large water tank in Ocean View Rd or the smaller reservoir adjacent to the wharf to underground storage tanks in the reclamation and then reticulated to the marina itself. On the basis that water may be provided to the marina berths in the future the **Figure 17** services plan shows two underground storage tanks in the reclamation. The coastal permit application is being made on this basis and the possible provision of water supply lines to the marina berths, as well as the marina office and laundry.

Reliance on Existing Fuel Supply

No fuel facilities are proposed in the marina. There is an existing diesel fuel supply on the pontoon adjacent to the old wharf.

2.11 Pile Moorings

The general locations of the proposed pile moorings are shown in **Figure 12**. Two rows are proposed. with six moorings in the northernmost row and eleven moorings in the southern most row.

A navigation 'gap' for craft is proposed in the innermost row and as such a total of 20 piles for the 17 mooring holders are required. **Figure 12** shows the approximate spacing of the piles based on the 'current' mooring holder interests. This spacing could change before construction commences if moorings holders and their craft change.

The actual number of moorings provided could also be less if some of the current moorings are transferred to other 'owners' and/or their interests in marina berths change before construction commences. A maximum of 20 piles for 17 moorings is being proposed based on the 'available' water space.

2.12 Dinghy Racks

The existing dinghy racks at the end of Ocean View Rd are located at the entry/exit to the reclamation car park as shown in the aerial photograph plan in **Figure 7**. They are to be removed and replaced with alternative facilities as outlined in Section 8 of the Wardale construction report.

The current racks facilities can house approximately 47 dinghies. When inspected in late February 2013 the racks were almost full, with a couple of dinghies stored on the adjacent land. The photographs in **Figure 18** show the existing racks and surrounding area.

New Floating Dinghy Racks for Pile Mooring Holders

A set of dinghy racks for the pile mooring holders in the northernmost part of the bay are proposed adjacent to the marina office on Pier A. The number of racks provided will depend on the final number of pile moorings, but be no more than 17. The dinghy racks are expected to be similar to those at Pier X in the Westhaven marina. **Figure 18** contains photographs of the Westhaven facilities. The floating dinghy racks are only expected to serve the pile mooring holders in the northern part of the bay.

Possible Dinghy Racks or Storage Facilities for Swing Mooring Holders

The existing dinghy racks could be relocated to a new position closer to the remaining swing moorings in the southern bay as outlined in the Wardale report. The number of swing mooring holders in the southern bay who use the existing dinghy racks at the northern end of Ocean View Rd is not known. However if a significant number are used by these mooring holders and they want to retain them then WML will move the existing racks to a more convenient location to the south of the ferry terminal.

Prior to construction of the marina WML intend contacting the mooring holders in the southern bay to see how many use the existing dinghy racks and what views they have on replacement facilities. As shown in the **Figure 18** photographs a number of southern bay mooring holders currently 'store' their dinghies around the foreshore. A few more informal 'storage' spaces possibly could be found in this same area. Alternatively if the numbers warrant it then some or all of the existing dinghy racks can be relocated to this part of the bay. This matter is discussed further in Section 3.7 of this report.

2.13 Dredging

Existing Water Depths

Figure 5 shows the seabed contours and water depths in the area containing the proposed marina. Water depths vary from 1.0m below CD along the inner edge to over 4.0m below CD towards the outer edge.

As noted in the IMC report MLWS is 0.3m above CD, whilst MHWS is 2.8m above CD. Further details on recorded tide levels are provided in the IMC marina design report and Section 3.1 of this report.

Design Water Depths

The natural water depths in the marina site make it very suitable for its intended use. The IMC engineering report in **Appendix D** covers this matter with reference to the Australian marina design guidelines (AS3962 2001).

Dredge Area & Volume

A relatively small area of approximately 7180m^2 around the inner most Pier A requires dredging to provide the expected water depths for berthed craft. The depth of dredging will be between 2.0m and 2.5m and the total volume is estimated to be approximately 5025m^3. **Figure 19** shows the extent of the proposed dredging.

The basis of the dredging volume estimate is explained in the IMC engineering report.

Dredging Method & Material Use

The dredging is expected be carried out using a barge mounted hydraulic excavator. All of the material is to be placed directly into the proposed reclamation as outlined in the Wardale construction report in **Appendix F**.

2.14 Reclamation

The proposed reclamation is to provide access to the marina and some 'on site' parking. The extent of 'on site' parking (55 spaces) proposed and the arrangements for use of existing car park facilities in the wider area are discussed in the next section of this report.

Extent & Proposed Use

The reclamation has been designed so as to not encroach onto the historic reserve. **Figure 19** shows the extent of the proposed reclamation of approximately 3020m^2. **Figure 20** shows the layout of the reclamation, most of which is to be used for car parking. Several small areas of landscaping are proposed, along with a 3m wide footpath around the western and northern edges of the reclamation.

The area affected by the reclamation is shown in the **Figure 21** aerial photograph. It includes part of the existing reclamation and rock wall. The proposed reclamation will extend along the existing coastline as far as two large pohutukawa trees as shown in **Figure 21**.

Reclamation Height

The reclamation is expected to be built to a height of around 4.5m above CD as outlined in the Riley services engineering report. This height is about 1.7m above current MHWS (2.8m above CD).

The height of the reclamation is related to the adjacent road and it has been designed to account for future sea level rise, storm surge and other factors as outlined later in this report. **Figure 22** shows a typical cross section of the reclamation.

Adjacent Fill

There will be one small fill area on the inland side of mean high water springs that will effectively be viewed as part of the 'reclamation'. It is shown in **Figures 19 & 21**.

The area of approximately 310m^2 is entirely within the road reserve. As shown in **Figure 19** the volume of fill involved is approximately 60m^3. The fill is required simply to 'marry' together the height of the reclamation with the adjacent road reserve.

Design & Construction

The design and construction of the reclamation is illustrated in the **Figure 19** cross section plan and explained in the IMC, Riley and Wardale reports.

The 'soft' (undercut) material overlying the rock outcrop which is expected to be under the perimeter bund wall will be removed and placed behind the wall as it built. The extent of the expected 'undercut' is shown in **Figure 19**. As outlined on this figure the volume of undercut material to be removed is estimated to be approximately 1550m^3.

Geotechnical engineering aspects of the reclamation are explained in the Riley report in **Appendix E**. The perimeter bund will have an inner core, geotextile lining and outer rock armour facing.

The Riley report estimates that the approximately 6120m^3 of loose granular rock material will be required for the initial perimeter bund (compacted to 5100m^3) and another 1300m^3 of selected rock (uncompacted) for the outer rock armouring of the reclamation. The 5025m^3 of dredged material and 1550m^3 of reclamation undercut material (in situ measures) is expected to be sufficient for the fill placed behind the perimeter bund/armouring. This 'dredged' material total of 6575m^3 is expected to reduce down to approximately 5000m^3 allowing for around 25% compaction.

No 'imported' fill material is expected to be required for the reclamation, other than the 'base course' used for forming the car park pavement and topsoil for landscaping.

The Riley and Wardale reports outline the expected reclamation construction process. The bund, including the outer rock facing, is expected to be formed using a hydraulic excavator and other earthmoving equipment. The 'undercut' and dredged material will be placed behind the perimeter bund to bring the reclamation up to the desired height.

The outer rock armouring and bund material is expected to be imported (by barge) to the island. Investigations indicate that material from the local Stoney Ridge quarry on the island may not be suitable and/or available. Barging all of the material, probably from the one quarry on the lower Coromandel, is more expensive but means there will no associated truck movements.

2.15 Reclamation Viewing Deck

A viewing deck is planned on the western face of the reclamation so the public can enjoy views of the marina and wider bay. The deck will be approximately 30m long and 6m wide (180m^2). It is expected to be of timber construction with either timber or steel handrails.

Figures 21 & 22 show how the deck relates to the reclamation, including a typical cross section. Engineering aspects of the proposed deck are explained covered in the IMC report. The timber deck is expected to be supported on timber piles driven on the outer face of the reclamation. The construction process is outlined in the Wardale report.

2.16 Boardwalk

A boardwalk, also of timber construction, is being proposed from the northern end of the reclamation to the existing public beach to the north. The boardwalk will be approximately 40m long and be curved around the edge of the two shoreline pohutukawa trees as shown in **Figure 21**. It will have timber or steel handrails and balustrades.

Basis of Boardwalk

The boardwalk is not a necessary or integral part of the marina. It is being proposed because the existing walking track within the historic reserve is affected by slips and does not provide all tide access to the northern bay and beyond. Slips have occurred whilst investigations into the marina have been undertaken. Further information on the basis of the boardwalk initiative is provided in Section 3.7 of this report.

Design Details

The boardwalk is proposed to be built to a level of 4.0m above CD, which is 1.1m above MHWS. This point is illustrated in the **Figure 22** cross section plan. The design height includes a 0.5m allowance for the possible effects of storm surge, wave run up and a tsunami, along with a 0.6m allowance for possible future sea level rise as recommended in the IMC report.

The boardwalk is proposed to be 2.5m wide and will have handrails. It will be supported by seven sets of wooden piles (14 in total) approximately 6m apart that will be 'keyed' into the underlying rock as outlined in the IMC report. The landward connection of the boardwalk will terminate on the beach just above MHWS as shown in the **Figure 23** photographs. **Figure 24** contains an illustrative diagram of the landward connection, which involves a small rock protected ramp. As outlined in the IMC report approximately $10m^3$ of fill and $5m^3$ of rock is expected to be used for the ramp. The rock is expected to be around head size, i.e. 200-300mm diameter.

Construction

The boardwalk, along with the viewing deck, is expected to be built on site, using the largely completed reclamation as a base as outlined in the Wardale report.

2.17 Parking

Reclamation Layout

The 55 parking spaces on the proposed reclamation shown in **Figure 20** are intended for the marina berth holders, along with their visitors. Two of the parking spaces are to be reserved for the marina manager and coastguard. This means that 53 spaces are available for berth holders and their visitors.

Swipe card or other access control mechanisms are proposed at the entrance and exit to ensure parking is restricted to these people. The proposed control mechanisms are described in Section 3.8 of this report and in the specialist Traffic & Transportation Engineers Ltd (T2) parking and traffic report in **Appendix H**.

During the week visitors to the marina will be able to access the reclamation car park as it will have capacity. However during the weekends (when berth holder use will be greater) visitors will at times be directed to park in the nearby Council car parks (where there are invariably available spaces). The availability of Council parking spaces is discussed in more detail later in Section 3.8 of this report.

The car parking area is to be paved and marked out. Stormwater drainage facilities are to be provided as outlined in the next section of this report.

Informal Roadside Parking for Mooring Holders

The entrance and exit to the reclamation car park will affect land at the end of the road reserve that is currently used for dinghy storage. As outlined earlier 'replacement' dinghy racks for affected mooring holders are being proposed.

The reclamation parking entrance/exit will not affect the two parking areas at the head of the cul de sac that are 'reserved' for disabled people and mooring holders. **Figure 8** contains photographs of these parking spaces.

On the inland side of the road there are two spaces reserved for disabled people and three spaces reserved for mooring holders. There are another one to two spaces (depending on size of vehicle) for mooring holders on the seaward side adjacent to the boat ramp. The two parking areas will remain as shown in **Figure 20**. The inland parking area is to be upgraded in terms of new sealing and markings as part of the marina project.

Basis of Reclamation Parking

The number of car parking spaces on the reclamation has been determined taking into account a number of factors, including the desire to keep the reclamation as small as possible yet provide for expected parking demand based on surveys from other marinas. The availability of Council car parking areas during the weekend, the need for effective vehicle circulation, perimeter walkway access and internal landscaping were also important factors in the design.

The 53 parking spaces for the 160 marina berths (disregarding the two spaces set aside for the coastguard and marina manager) equate to a parking standard of 1 space for every 0.33 berth or just over 1 parking space for every 3 berths. The ratio of parking spaces to berths is discussed in more detail later in this report.

The parking spaces on the reclamation are expected to cater for all week day marina parking needs and a significant proportion of the weekend parking demands. Surveys of some existing marinas by T2 found that weekday parking demand is significantly less than during the weekends.

Parking Area Management

Use of the reclamation parking areas is to be managed with all of the parking spaces having time limits.

WML are proposing that a small number of spaces be set aside for 'short' term drop off, minor maintenance and other similar activities (up 4 hours). The majority of the spaces are to be set aside for day sailings and the like, i.e. 4-12 hours and be of a 'medium' term nature. A small number of 'long' term spaces are to be allocated for 'overnight' trips (12 to 48 hours).

Markings and small signs are proposed to assist users and the marina manager with this matter.

Further details on the proposed time restrictions and day to day management of the parking area are provided in the T2 report and Section 3.8 of this report.

Use of Council Parking Areas

During the weekends some marina berth holders and visitors are expected to also use the nearby Council car parks. **Figure 24** shows the existing Council car parks. Most of the Council car parks have restrictions on the length of time people can stay.

2.18 Stormwater Drainage

The stormwater drainage facilities proposed for the reclamation are described in the Riley civil engineering report in **Appendix G** and shown in **Figures 25-27**. They are;

- Collection of all stormwater from the sealed vehicle access and parking areas within the reclamation and direction to three stormwater outlets (with treatment devices) on the northern and western sides of the reclamation,
- Installation of a prefabricated engineering filters, such as the Hynds up flow filter, to treat all stormwater before discharge into the coastal marine area,
- Design of the stormwater system to safely cope with 10 year and 100 ARI storm events,
- Rip rap and other energy dissipation/erosion protection structures at the stormwater outlets,
- Design of the reclamation and finished surfaces to provide an unimpeded secondary overland flow path for high intensity rainfall events
- No disturbance of the historic reserve area enabling 'clean' runoff from the steep hillside to be kept away from the reclamation and continue to discharge directly into the coastal marine area.
- Direction of stormwater from the existing road reserve to be filled, and discharge to the proposed stormwater outlet adjacent to the existing boat ramp.

Figure 25 shows the three proposed stormwater outlets and related site drainage information. **Figure 26** shows a cross section of the stormwater line within the reclamation and a typical cross section of an outlet.

Figure 27 shows the extent of the existing and proposed impervious areas. As outlined on this figure and in the Riley report the new reclamation will have an impervious surface area of approximately 2010m^2 and have two stormwater outlets. The redeveloped road reserve area will have an impervious surface area of approximately 330m^2, including a 'new' area of approximately 13m^2. One stormwater outlet will serve this area.

Further details on the design, monitoring and maintenance of the proposed stormwater drainage facilities are in the Riley report. As noted in this report the facilities are to be designed in accordance with the ACC Code of Urban Subdivision and Development and ARC Technical Publications 10 and 124.

2.19 Landscaping

The reclamation is to be landscaped as shown **Figure 28.** Six pohutukawa trees, along with under plantings of the hardy native pohuehue (muehlenbekia), are proposed along the inner edge. A single pohutukawa tree and similar under plantings are proposed adjacent to the viewing deck.

Low level native plantings are proposed within the reclamation parking area and by the entrance/exit.

The basis of the proposed plantings is explained in the LA4 landscape report in **Appendix I**.

2.20 Lighting

The proposed lighting arrangements for the marina and associated land based facilities are outlined in the report from Light Group Ltd (LGL) in **Appendix J.** They are shown in **Figures 29 & 30.**

Floating Marina Structures & Primary Breakwater

The LGL report proposes that approximately ninety five (95) low level pedestal lights be installed along the southern access pier and Piers A-D. The light modules are expected to be approximately 1.2m high. Their separation distances will vary from approximately 3.5m - 21.0m according to their location as outlined in the LGL report.

Figure 29 contains an illustration of a typical light module. Light levels of up to 19 lux are expected to be emitted. The lux level is expected to be of a nature that will provide security and safety for all users, whilst ensuring glare and overspill is minimised.

Primary Breakwater

No lighting is proposed of the footpath primary breakwater.

Reclamation

A total of nine (9) LED type floodlights are proposed for the reclamation parking area as outlined in the LGL report. The lights will be on poles approximately 6.0m high and expected to produce light levels of up to 37.1 lux with an average of 15.3 lux across the car park area.

Figure 30 contains a diagram of a typical pole and floodlight. The floodlights are directed to the ground (horizontal) and designed to have no upward light component. The LGL report notes that the lighting system has been designed to comply with relevant Australian & NZ standard (AS/NZ 1158.3.1:2005) for Pedestrian Area Category P lighting. It has also been designed to comply with the relevant district plan rules. This matter is discussed further in Section 3.10 of this report.

Boardwalk

No lighting of the timber boardwalk leading to the DoC reserve is proposed. However as outlined in the LGL report there will be some light spill from the reclamation area that will assist users.

2.21 Public Access & Security

Figure 31 illustrates the proposed public access arrangements for the marina.

Pedestrian Access to the Marina

The gangway serving the southern access pier will be the sole point of entry for berth holders, their visitors and the general public. It is expected to have a security gate with public access being available to this pier and the adjoining primary breakwater and viewing platform facilities during daylight hours. Unrestricted public access to these facilities is not possible because as shown in **Figure 31** six berths are immediately adjacent to the southern access pier and damage to boats and/or theft of belongings is possible at night time.

Security gates are proposed at the start of Piers A-D. No public access to these piers is being proposed.

Casual Berthing of Craft

No provision is to be made for the casual berthing of craft along the outer edge of the southern access pier, except for emergency purposes.

Casual berthage is expected to be available within the marina. As at most other marinas the marina manager is expected to allocate casual berthage on an as required basis from those berth holders who make their berths available when not being used for a period of time.

Pedestrian Access to the Reclamation

The public will have unrestricted pedestrian access to the reclamation footpath, viewing deck and boardwalk. A variable width esplanade reserve is proposed around the edge of the reclamation. **Figure 32** shows the extent of the proposed reserve of approximately 820m^2.

Under Section 108 (1) (g) of the Act the Council can require an esplanade reserve or esplanade strip of any width on any reclamation. Such reserves or strips commence from MHWS not the lowest point or 'toe' or reclamations.

A variable width esplanade reserve (from 3.15m-5.90m) is proposed around the entire edge of the reclamation related to the proposed walkway and landscaped areas as shown in **Figure 32.**

A 'normal' 20m width esplanade reserve would include most of the proposed parking area as illustrated in **Figure 32**. This reserve alternative, along with other possible esplanade area options, is discussed in more detail in Section 3.7 of this report.

2.22 Piles for the Coastguard Vessel

Two piles enabling the coastguard vessel to be berthed alongside the southern access pier are being proposed. **Figure 12** shows their approximate location. This proposal has been included after discussions with members of the Waiheke Volunteer Coastguard Inc.

2.23 Navigation Aids

Navigation markers are proposed on each end of the primary breakwater, on the outer end of the secondary breakwater and near the 'channel' (fairway) opposite the inner end of the primary breakwater. The approximate locations of the navigation markers are shown on the IMC plan in **Figure 12**.

The technical basis of the navigation aids are explained in the specialist boat navigation and safety report from Captain Varney in **Appendix K**.

2.24 Exclusive Occupation Areas

WML are seeking exclusive occupation rights for all of the floating structures and associated berthing areas, plus the pile moorings. This is so control can be exercised at all times over craft in these areas. The proposed exclusive occupation areas are shown in **Figure 33**. They total approximately 2.26ha.

The proposed exclusive occupation areas are based on the resource consents issued for the Orakei and Sandspit marinas. No exclusive occupation rights are being sought over the marina entrance/fairway or the internal fairways between the piers.

2.25 Construction Programme

The marina is expected to take 20-26 months to construct. The Wardale report describes the four stage construction programme in more detail. **Figure 34**, which is drawn from this report, illustrates the different stages.

The stages in summary are:

- Stage 1 – Installation of the pile moorings, relocation of some moored craft, the first stage of the primary breakwater, all of the secondary breakwater, dredging and construction of the reclamation;
- Stage 2 – Completion (second stage) of the primary breakwater, installation of the adjacent Pier D and relocation of further moorings;
- Stage 3 – Southern access pier installation and gangway connections to primary breakwater and reclamation; and
- Stage 4 – Piers A-C are installed, along with the marina office, floating dinghy racks and all services, craft are moved to their 'final' positions in the marina, pile moorings or vacant remaining swing moorings, reclamation sealing and landscaping are provided, along with land based dinghy racks and redeveloped roadside parking for mooring holders.

The construction is to be managed so as to minimise disruption to people using the ferries, along with existing mooring holders and users of the road and reserve areas. Particular consideration has been given to the effects of the construction on mooring holders and ferry and road traffic/users and as outlined below. Arrangements for the long term accommodation of affected mooring holders have also been developed.

2.26 Construction Traffic Management

The Wardale report outlines the expected nature of the barge and truck based construction traffic involved in the different stages of the project. It is as follows:

- Around 74 barge 'round trips' are expected for the imported breakwater materials, split between the two stages of the primary breakwater construction;
- Around 20 barge 'round trips' are expected for the imported reclamation materials over a 2-3 month period;
- Around 120-130 heavy truck 'round trips' are expected for the delivery of marina pontoons and piles, with most of these over a 3-4 month period;
- Around 130-140 heavy truck 'round trips' are expected for the reclamation finishing (sealing landscaping and services) viewing deck and boardwalk materials over a 2 month period;

In addition there will be small number of barge 'round trips' involving delivery of the dredgings a short distance to the reclamation. There will also be a number of light vehicle 'round trips' as contractors travel to and from the site. They have not been estimated at this point.

The word 'round trip' covers the delivery of the material to the site and the return journey.

The Wardale report outlines the capacity of the barges and heavy trucks upon which the traffic estimates have been based. It also contains photographs of the types of barges expected to be used.

2.27 Construction Arrangements for Mooring Holders

The marina will affect all of the 54 existing swing moorings in the northern mooring area. Construction of the marina is to be carefully planned and managed to minimise the disruption to all mooring holders.

The construction process as it relates to affected mooring holders is explained in the Wardale report and illustrated in **Figure 35.** The key points related to the four construction stages are:

- Stage 1 – The pile moorings are installed and craft moored in the vicinity of the breakwaters (approximately 15) are moved to the pile moorings or elsewhere in the bay.
- Stage 2 – The breakwaters and Pier D are constructed and the remaining craft within the marina 'footprint' (approximately 39) are temporarily moved there or elsewhere in the bay.
- Stage 3 – The southern access pier is constructed and access is provided to the temporarily moored craft.
- Stage 4 – Piers A-C are installed and craft are moved to their final positions in marina, pile moorings or vacant remaining swing moorings. The dinghy racks are installed and the current roadside parking area for mooring holders is redeveloped.

2.28 Construction Management Plan

The construction process is expected to be managed through a Construction Management Plan (CMP) prepared in draft form by the lead contractor and approved by the Council before any construction commences. Consent conditions relating to this matter are being proposed (Ref. Section 4.15).

Appendix L contains a draft table of contents for the CMP. The CMP is expected to cover the following matters:

- Construction site management
- Construction staging & publicity
- Environmental monitoring & management

The environmental monitoring and management component of the plan is expected to cover construction traffic, dust, erosion and sediment control, noise, vibration and water quality. A number of related proposals are outlined in Section 3 of this report and the specialist reports in the appendices.

The Wardale construction and T2 traffic and parking reports contain some detailed proposals to manage the number and timing of barge and truck movements to the site related to ferry sailings. They have been incorporated into a Draft Construction Traffic Management Plan, which is appended to the T2 report. This plan is explained in more detail in Section 3.8 of this report.

2.29 Long Term Accommodation of Mooring Holders

The aerial photograph in **Figure 11** shows the location of the proposed marina in relation to declared mooring areas and all existing moorings.

WML have contacted all 93 mooring holders in the bay to ascertain their interest in a marina berth. Of the 54 northern mooring holders 32 have indicated they would like to purchase a berth in the marina and another 16 have indicated they would like to have a pile mooring. Six mooring holders had not replied as at 1 February 2013. Of the 39 southern mooring holders 14 have indicated interest in a marina berth.

Figure 36 shows the current interest of mooring holders in the bay in a marina berth, pile mooring or swing mooring. In total 46 of the 93 mooring holders have indicated they will move into the marina. At present up to 6 of the 14 potentially available moorings on the southern side are likely to be taken up by craft moving from the northern side. This means that at least 8 moorings on the southern side of the bay could be available to new entrants. The Council Harbourmaster is responsible for allocating all new swing moorings. As outlined in Section 3.7 of this report the extent and number of moorings in the bay may change through the proposed Auckland Unitary Plan.

Figure 36 is only of an illustrative nature showing the situation as it stands at 1 February 2013. The number of mooring holders who actually arrange to purchase a berth in the marina once the resource consent process is completed may be different to those who have currently expressed an interest. However the figure does indicate that generally all affected mooring holders in the northern bay are expected to be accommodated either in the marina or on a pile or swing mooring.

2.30 Marina Ownership & Management

The marina is expected to be managed by a Trust. The constitution and make of the Trust is expected to be modelled on those in place at other marinas. Legal and other investigations are being carried out into the proposed Trust and further information will be provided during the resource consent process.

Each berth holder will have an occupation or berth licence and be charged an annual maintenance fee. The fee will cover operating expenses, including Council monitoring charges. The charges will be set annually on the basis of the year's projected operating costs.

Boating and other activities within the marina will be controlled under the berth licences and a set of rules. They are expected to be modelled on those in place at other marinas. The marina rules are expected to cover the following matters:

- Berth alterations
- Navigation of craft
- Fastenings & security of craft
- Fire hose use
- Health & safety
- Keeping of animals
- Maintenance work
- Noise
- Contaminant discharges
- Refuelling
- Swimming & other recreational activities
- Vehicle parking

Appendix M contains copies of the Orakei and Westhaven marina rules. The Matiatia marina rules are expected to be largely based on them. A draft set of rules for Matiatia is expected to be developed during the resource consent process.

3 ENVIRONMENTAL EFFECTS

3.1 Coastal Processes

3.1.1 General Overview

Matiatia Bay Wharf Redevelopment Report Findings

The hydraulic features of Matiatia Bay and the coastal processes affecting it are described in a 1991 Beca Carter Hollings & Ferner Ltd (Beca) Environmental Impact Assessment report on the Wharf and Ferry Terminal. It contains the following information:

- The bay is semi enclosed with headlands that give protection from both the south-westerlies and north-easterlies.
- The wharf is located towards the centre of the bay with a small sandy beach and an extensive rocky beach to the south.
- A small amount of land has been reclaimed adjacent to the old wharf with the seawall on the seaward side formed by weathered andesite rocks.
- The bay is approximately 800m long and its bed slopes from the shore to 10m CD at the entrance.
- Each diurnal tide exchanges about one third of the volume of the water in the bay. Strong tidal currents running past the entrance along with the bay geometry create eddies which move large amounts of water.
- During the ebb tide a clockwise eddy forms in the lee of Te Whetamatarua Point (southern side) which protrudes in to the tidal current flowing past the bay. When the flood tide is running the headland catches some of the current and creates an anti-clockwise circulation in the bay.
- The bay is exposed to wind generated waves from the westerly direction. The longest direct fetch is 5.5km from the west.
- Significant wave heights (Hs) of 1.20m for a 1:50 year storm and 0.9m for a 1:10 year storm were predicted for the wharf area.
- Wind waves from the northwest can also reach the entrance and reflect north-eastwards off the steep southerly shoreline.
- Waves from the ferries and other vessels dissipate onto the shoreline. The craft reduce speed upon entering with most of the energy dissipated on the outer headlands and rocky shorelines.

Significant wave height is the arithmetic average mean of the highest one third of the waves in a storm and is used in the design of wharves, marinas and other coastal structures.

Seabed Survey

Ports of Auckland Ltd (POAL) carried out a seabed survey of the northern bay area in April 2010. **Appendix B** contains a copy of the POAL report. The key findings of the survey were:

- The seabed is of a steadily sloping nature reaching depths of 3.5 - 4.5m free from any obstructions leading into the head of the bay.
- Along the north-western edge there is steeper drop off from the low water rocks to depth of 2-3m before merging with the gentler sloping sandy seabed at the northern most end.
- Along the eastern side there is sandy beach interspersed with several rocky outcrops, with the largest being adjacent to the end of Ocean View Rd.

Land Survey

Axis Consultants Ltd (Axis) undertook a shoreline survey of the northern bay in March 2010. The land survey was tied in with the POAL seabed survey and used to produce the overall site plans. The Axis survey report in **Appendix C** explains the findings of the land survey and related survey definitions.

Tide Records

The Cardno and IMC reports contain the following tide records for Matiatia Bay:

Table 3: Matiatia: Tide Records

Tide	Height Above Chart Datum
Mean High Water Springs (MHWS)	2.80
Mean High Water Neaps (MHWN)	2.40
Mean Sea Level (MSL)	1.60
Mean Low Water Neaps (MHWN)	0.60
Mean Low Water Springs (MHWS)	0.30
Chart (Sounding) Datum	0.00

Source: IMC Report

The spring tide range is 2.5m and the neap tide range is 1.8m.

Mean sea level is the long term average of sea level due to tidal effects only, i.e. when wind waves and other non-tidal influences are not accounted for. The Axis survey recorded a number of existing survey marks in the area, including the old wharf at 4.4m above chart datum and the new wharf at 4.5m above chart datum.

The Axis survey report relates the current tide records to those recorded in the 1991 Beca EIA report for the Matiatia wharf. The Beca report recorded slightly different spring and neap tide levels. It also contained an estimate of the highest recorded tide at Matiatia. This was 3.7m above CD based on tide records from Auckland that were adjusted for Matiatia Bay. The Beca report also recorded the highest astronomical tide at this time as being 3.4m.

Marina Site Investigations

The 2012 marina design is based on investigations of the marina site by IMC, along with supporting wave and ferry wake reports from Cardno (NSW/ACT) Pty Ltd (Cardno) and Met Ocean Solutions Ltd (Met Ocean).

The Met Ocean report is in **Appendix N** and the Cardno report is in **Appendix O**.

The investigations utilise some of the data and findings of the 2010-11 investigations by Dr Christian on the earlier marina project.

3.1.2 Met Ocean Wind & Ferry Wake Investigations

Met Oceans set up three Acoustic Doppler Current Profilers (ADCP's) with pressure sensors in the northern bay to record wind and ferry wake waves during a two week period in November and December 2011. Their report contains a figure showing the locations of the recording sites.

Wind Waves

Section 4 2 of the Met Ocean report contains background information on observed wind waves and those estimated by Dr Christian for the earlier marina project. The report notes that Matiatia Bay is sheltered by the adjacent Motutapu and Rakino Islands and the maximum fetch is approximately 5.5km to the southwest. It also records the Christian report finding that a 1:50 return period 'significant wave height' of 1.28m with a period of 3.56 seconds could be expected at the entrance to the bay. The 'significant wave height' (Hs) is the arithmetic average mean of the highest one third of the waves in a storm. It is used in the Australian Guidelines for Design of Marinas (AS 3962- 2001) and other publications relating to the design of coastal structures.

The largest wind wave significant wave height recorded was 0.39m. The mean Hs was found to be 0.10m. Typical peak spectral periods of the wind waves under the most energetic conditions were found to be 2.5 - 3.0 seconds. The mean periods for the wind waves were found to be in the 1.5-2.5 second range.

Ferry Wakes

The Met Ocean work recorded the wakes from a total of 135 ferry movements over the two week period. The largest wake waves measured at the three locations were from 0.307m - 0.344m. The wake periods for the largest waves (above 0.25m) were in the 4.5 to 9.0 second range. The overall mean of the maximum wake heights from the three locations was 0.14m-0.190m.

The ferry wake recordings were found, as expected, to be higher towards the western (outer bay) end of the site (mean of around 0.19m) than the eastern (inner shore) end of the site (mean of around 0.14m). Ferry wakes are predominantly transverse in nature, i.e. travel in the same direction as the vessels.

Section 5.2 of the Met Ocean report notes that the recorded ferry wakes in the location of the marina (0.307m) was very close to the 0.3m estimate made by Dr Christian in 2010. It noted that the although the recordings and analysis did not clearly determine the prevailing wake direction the largest waves were likely to be from the west-south west.

The report noted that the earlier floating attenuator based marina design was developed on the basis of 0.7m transmission coefficient and 0.3m ferry wakes being reduced down to around 0.20m. On the basis that the recorded ferry wakes are likely to have transmission coefficients higher than 0.7m the report recommended that marina design be re-examined.

3.1.3 Cardno Wave Climate & Marina Design Investigation

The Cardno report contains bathymetric and wind data relevant to the marina site, along with other information. Section 3 describes the SWAN wave model and MIKE-21 Boussinesq (MIKE 21 BW) wave model of the Met Oceans wind wave records that were used to assist with design of the marina.

SWAN Model Results

The SWAN wave model predicted one year recurrence interval storm wave height of 0.56m, a 1 in 10 year wave height of 0.67m and a 1 in 50 year event of 0.76m, all from the south west quarter (244-255^{o}TN). The annual event had a predicted wave period of 2.3 seconds and the other two events a 2.5 second wave period.

MIKE 21 Model Results

The Mike 21 wave penetration model using both the Met Oceans wind wave and ferry wake data was used on five different marina designs, ranging from a single (primary) breakwater to a two (primary and secondary) breakwater system, like that now proposed, but with panel sections at each end. The modelling results are shown in tables in the report and illustrated in accompanying figures.

The report notes that from the tables and diagrams that it is clear that increased breakwater works lead to improved at-berth conditions. It also highlights that the modelling tables and diagrams show the reflections from the proposed breakwaters and shorelines, together with some wave propogation beneath the proposed southern access pier.

Figures 37 & 38 show the model results of the ferry wave and the wind wave protection achieved with the proposed breakwater system, i.e. a primary breakwater and panels at each end and a secondary breakwater without panels.

3.1.4 Breakwater Based Marina Design

Section 4 of the IMC report outlines the breakwater based design of the marina. It refers to the Met Ocean and Cardno investigations, the Australian standard for marina design and alternative wind wave and ferry wake protection solutions.

Australian Standard Guidelines for Design of Marinas

Section 4.1 of the IMC report highlights relevant sections of the Australian Guidelines for Design of Marinas (AS 3962- 2001). The Australian 'standard' has traditionally been used to guide the design of marinas in New Zealand. As noted in Section 1 the 'standard' is "*intended for use as a guideline and should not be used as a design specification.*"

Section 4.8.2.1 Limitations on Wave Height in Marinas, deals with wave heights and the design of protection structures. It states:

> *"In the design of marinas for small craft it is necessary to limit the height of waves which can impinge on the marina and vessels berthed in the marina. This limitation is necessary to ensure that the marina is a safe haven for the berthing and protection of vessels.*
>
> *If the marina is to be sited in large exposed waterways where excessive wave height will occur during strong winds then wave height should be limited using an attenuator or fixed breakwater. Similarly when non environmental forces such as vessel wash would result in excessive wave height or currents, breakwaters and underwater baffles will be required to limit these disturbances.*
>
> *Table 4.2 gives recommended wave height criteria for small craft harbours*."

The Table 4.2 – Criteria for Good Wave Climate for Small Craft in Small Craft Harbours, are based on three type of wave directions, being 'head' seas, 'oblique' seas and 'beam' seas, along with two types of wave periods, being less than 2 seconds and greater than 2 seconds. Different significant wave heights (Hs) are identified for 1 in 50 year and 1 in 1 year events.

The IMC report notes that the Australian guidelines only deal with wind waves and are not readily applicable to ferry wakes. It also highlights some limitations in the significant wave height guidelines for some sea conditions.

Ferry Wake Protection

Section 4.2.2 of the IMC report notes some marinas in New Zealand (Bayswater) and Australia (Brisbane River) that regularly experience ferry wakes as low as 0.15m receive complaints from berth holders and users. It also notes the sensitivity of people in boats to such waves and the instability and potential injuries that can occur. The report identifies overseas research that indicates a 'body topple acceleration limit' of 0.15m and a 'pontoon dynamic result for horizontal acceleration limit' of 0.1m. On this basis it recommends a marina design that is able to reduce the largest recorded ferry wakes down to no more than 0.15m and preferably 0.1m within the marina.

The IMC report notes that the highest recorded ferry wakes of up to 0.34m in the bay include catamaran craft and studies overseas have indicated they are more troublesome than those from mono hulled vessels. On this basis the report considers that the 0.15m minimum design parameter will ensure that any possible change in ferry types in the future is unlikely to create any problems.

The IMC report notes that although the Met Ocean recordings did not identify the ferry wake direction experience indicates that they will be primarily transverse, i.e. oriented in the direction of travel to the Matiatia ferry terminal. It recommends that the marina be designed accordingly to deal primarily with head on, rather than side on, ferry wakes unlike the 2011 marina design.

The IMC report considers that for the higher recorded ferry wakes of over 0.3m with relatively low 4.5 second period to be reduced down to the preferred 0.1m in height within the marina a double skirted floating attenuator would need to be in the order of 9m wide. For ferry wakes of the same height but around the mean period of 7 seconds the report considers the floating attenuator would need to be about twice the width. A floating attenuator of this size is considered by IMC to be impractical and not commercially viable. A fixed structure, either in the form of a rock or panel breakwater is recommended accordingly.

Wind Wave Protection

Section 4.3.3 of the IMC report considers that for the higher predicted wind waves of 0.56 to 0.76m from the west to south west direction marina protection is best achieved through a fixed structure. An analysis of wind records over the period 1970-2008 show that westerly winds of just under 18m/second (35 knots) over a ten minute period have been recorded.

Rock breakwaters are the prevailing type of fixed structure used to protect marinas and landing facilities from wind waves. In Auckland they are in place at Orakei marina and the redeveloped Kennedy Point landing. Breakwaters, as outlined in the IMC report, generally have a lower profile than fixed panels, often have some ecological and recreational benefits, and are easier to maintain. Section 4.5.1 of the IMC report notes that a panel breakwater at the Matiatia site would need to extend about 4m above mean water springs mark compared to the 1.7m with the proposed breakwaters to ensure there was significant wave energy cut off, no significant wave crest overtopping in severe storms with high surge levels, and fall allowance for potential sea level rise.

The visual impacts of an alternative panel structure would be significant as outlined in the IMC report. The report also notes the comparatively high costs of such structures, and potentially higher maintenance and replacement costs. A panel structure would also produce a high amount of reflected energy back into the bay with a potentially very confused sea state in front of the marina and have associated boat navigation and safety limitations.

Section 4.5.3 of the IMC report considers that the skirted southern access pier will provide adequate protection from the southerly based wind waves that have a relatively short period because of the smaller 300m fetch. It notes that the 4m wide pier has a transmission coefficient of 0.1 for short period waves and will comply with the AS 3902 guidelines. The IMC report considers that the southern access pier will effectively attenuate diverging bow waves from the ferries approaching the wharf which have a higher transmission coefficient of around 0.4.

3.1.5 Dredging Requirements & Marina Water Depths

Section 4.10 of the IMC report explains how the current and proposed water depths in the marina relate to the craft expected to be berthed in the marina and the AS3962 guidelines. Section 3.2 of AS3962 relates the recommended water depths to the type of craft, with three types identified, being power boats, yachts and multi-hulls. Four factors are identified these being;

- The maximum draught of vessels to be berthed with reference to Table 3.1, plus
- A minimum keel clearance of 300mm or 10% of the maximum vessel draft, whichever is the greatest, plus
- Half the significant wave height, plus
- An allowance for sedimentation if it is likely to occur.

Section 4.10 of the IMC report outlines how the dredging regime has been designed in accordance with AS 3962. It is summarised in the table below.

Table 4: Matiatia Marina Water Depths

Berth Length (m)	Draft (m)	Keel Clearance (m)	Design Depth (m)
10.5	1.8	0.3	2.1
12	2.0	0.3	2.4
13.5	2.2	0.3	2.6
14	2.3	0.3	2.7
15	2.5	0.3	2.9
16	2.6	0.3	3.0
20	2.9	0.3	3.4

Source: IMC Report

No allowance has been made for future sedimentation as very little is expected to occur as outlined in the IMC report. The keel clearance and significant wave height factors are explained in the IMC report.

3.1.6 Effects of Dredging

The IMC report notes the marina has been designed with the smaller berths closer to the shore to minimise the extent of dredging. It notes that the dredged area will fall from 2.0m near the shore to 2.5m at the outer edge and this seaward slope is expected to limit future siltation. The dredging is not expected to have any effects on tidal currents or other coastal processes.

The area concerned is unlikely to have been dredged before. However dredging has occurred in the wider bay, including removal of a reported 4500m^3 when the main wharf was established. (Ref 1991 Beca EIA).

The Wardale construction report outlines the method of dredging and its timing. A barge mounted hydraulic excavator is to be used to remove the material. The material will have a relatively low clay content. Most of the settling out is expected to occur within the immediate vicinity of the 'site' because of the relatively weak water circulation patterns. A silt screen is expected to be used around the dredging area as outlined in the Poynter report.

3.1.7 Effects of Reclamation & Floating Structures

Reclamation

The proposed reclamation is not expected to have any adverse effects on coastal processes as outlined in the IMC report. This is because of its small size and location at the head of the bay.

Floating Structures

The IMC report addresses these effects. The floating breakwater and to a lesser extent the marina piers, will offer some resistance to surface flows and slightly dampen the tidal currents and any wind induced current movements. However the changes are not expected to significantly influence the wider sedimentation regime in the area and have any associated geomorphic effect.

3.1.8 Effects of Sea Level Rise & Other Events

Marina

Section 3.3 of the IMC report briefly discusses the various New Zealand estimates of future sea level rise and the allowance proposed for the marina project. It also explains the basis of the 0.5m 'allowance' for storm surge, wave runoff, possible tsunami effects based on published data and experiences in the Auckland region.

Boardwalk

The design height of the boardwalk (4.0m above CD) is explained in the IMC report. It will be 1.2m above MHWS (2.8m above CD) and is based on a 0.5m 'allowance' for storm surge, wave run up and possible tsunami effects, along with a 0.4m 'allowance' for possible future sea level rise, as recommended in the IMC report.

Reclamation

The finished design height of the reclamation (4.5m above CD) also takes into account these 'allowances', although is not directly affected.

The higher finished height of the reclamation is related to the height of the existing reclamation and need to obtain cover over the proposed stormwater pipes and treatment devices. This matter is explained more in the Riley civil engineering report.

3.1.9 Effects of Sedimentation & Possible Maintenance Dredging

Section 4.10 of the IMC report discusses the possible need for future maintenance dredging. It notes the findings of the engineering reports for the 2011 marina layout on dredging of a similar area. The earlier reports estimated very low siltation inputs to the bay and the revised breakwater layout is not expected to alter this or have any related adverse effects. The 2011 marina layout investigations noted the 1991 Beca report on the wharf redevelopment that recorded no appreciable erosion or accretion in the area and indicated no maintenance dredging had been carried out over the previous 25 years.

Maintenance dredging is a discretionary activity under the Regional Coastal Plan. Any future maintenance dredging is expected to be undertaken in similar manner to that proposed for the capital dredging, i.e. by a barge mounted excavator. The dredged material would be disposed of at an approved dredgings disposal site.

3.2 Geotechnical & Natural Hazards

3.2.1 Site Investigations

The Riley geotechnical report in **Appendix E** outlines the investigations carried out of the seabed and foreshore area in and around the marina site, focussing on the areas affected by dredging and construction of the breakwaters and reclamation. Sections 3, 4 and 5 of the report contain the following findings:

- The marina site and adjacent land is identified on geological maps as being underlain by undifferentiated argillite and greywacke of the Waipapa Group;
- The borehole sampling in the area of the reclamation found greyish-green estuarine silt with small amounts of sand and shell overlying fractured brown stained grey fractured greywacke and argillite containing some gravel and small boulder material;
- The silts within the area of the proposed reclamation ranged from 0.25m by the shoreline to more than 1.0m at the seaward extent;
- The borehole sampling in the breakwater area found a layer of alluvium, silts, muds sands and gravels ranging from 0.6m-1.0m deep near the shore to 5.2m-6.3m deep in the deeper water;
- Scala penetrometer testing of the materials found the strength of the deeper silts and muds in the breakwater area varied with some very soft and some firm to stiff. The strength of the underlying greywacke increased with depth; and
- The area under the primary breakwater in the deeper water generally contained softer marine materials compared to that under the secondary breakwater in the shallower water.

Figure 39 shows the borehole and scala penetrometer test locations, whilst **Figures 40 & 41** illustrate the nature of the seabed material findings and contain cross sections of the proposed breakwaters.

The Riley report, along with the IMC and Wardale reports contain several recommendations on breakwater and reclamation design, source and use of fill material, methods of dredging and marina construction that are summarised in the next parts of this report.

3.2.2 Effects of Breakwater Construction

Section 7 of the Riley report explains the geotechnical engineering basis of the proposed breakwaters and the related effects. It notes the stability and design geometry of the primary breakwater is governed by the 'soft' marine sediments to depths of 1.25m (northern or inner end) and 6.5m (southern or outer end). The report notes that the seabed under the secondary generally contains 'stiffer' materials breakwater and raises no significant design or construction issues.

Section 7.3 explains the engineering characteristics of soft marine sediments, whilst Section 7.4 contains stability assessment focussed on the primary breakwater. Section 7.4.7 assesses four different options for construction of the primary breakwater to achieve the required stability and proposes the use of geotextile fabric on the seabed as reinforcement and two stage construction. Geotextile fabric is also proposed for the southern (or outer) 'third of the secondary breakwater that is underlain at depth by clay with some silt.

Section 7.4.4 explains how the geotextile fabric is to be used, generally involving two layers separated by a 200mm layer of sand. **Figure 39** shows the proposed extent of the geotextile fabric, whilst **Figures 40 and 41** illustrate the cross sectional profile.

Section 7.4.8 explains the two stage construction of the primary breakwater, involving initial construction up to 5.4m above the seabed (+ 1.4 CD) and then after a settlement consolidation period of 12-18 months completion up to the design level 8.5m above the seabed (+ 4.5 CD). It notes that the process of settlement is to be monitored through markers near the base of the breakwater and pore pressure monitors in the seabed. Consent conditions on this matter are being proposed (Ref. Section 4.15 of this report).

Section 7.6 of the Riley report estimates settlement to be in the order of 250mm at the northern (inner) end and 700mm at the southern (outer) end of the primary breakwater. 'Additional' rock material will be required to compensate for the expected settlement and achieve the final design height.

Section 11 of the Wardale report outlines the breakwater construction process. It estimates approximately 19,200 tonnes of material will be used for the primary breakwater and approximately 8400 tonnes for the secondary breakwater, all of which will be barged to the site.

3.2.3 Dredging Related Effects

Section 4.3 of the Riley report describes the investigations carried out of the material to be dredged.

The top layer of 'soft' silt and silty sand/gravel, alluvium is underlain by more sandy and gravelly material. No underlying 'hard' underlying greywacke/argillite that may require breaking is expected. The preliminary investigations indicate that the material will be simply dredged and no rock breaking or other equipment will be required.

Section 6.1 of the report describes how the inner edge of the dredging will be cut back at a slope of 1(V):10 (H) or 6 degrees. Computer based stability analysis of the batter slope show an acceptable factor of safety and no related construction or ongoing geotechnical engineering issues are expected.

Section 10 of the Wardale report briefly discusses the proposed method of dredging, being a long reach hydraulic excavator working from a barge. This method minimises the mixing of water with the dredged material and associated dispersion of fine sediment into the surrounding sea.

The barge will have retractable spud legs, which will hold it in position whilst the excavator is working. This same method is expected to be used for removing the 'undercut' material from the proposed area of reclamation.

3.2.4 Effects of Reclamation

The Riley and Wardale reports describe the area to be reclaimed and the proposed method, including geotechnical engineering recommendations. As noted in Section 6.1 of the Riley report the area to be reclaimed is 55m wide by approximately 70m deep.

Section 4.2 of the Riley report includes the results of scala penetrometer probes from the area which show suitable foundation conditions exist. It also describes how the 'undercut' material is to be removed and bund wall constructed. The bund core and outer rock armoured face are expected to have 1 (V): 1.5 (H) faces. The proposed outer slope of the bund wall is typical of that found at several other reclamations in the region. **Figure 42** contains north-south and east-west direction cross section plans of the reclamation.

Section 6.2 of the Riley report recommends that the bund around the edge of reclamation be founded on the greywacke beneath the top layer of silty material. Investigations indicate that around the western edge up to 1m of material will need to be removed ('undercut') by way dredging. It recommends that the founding depth of the bund in the north-western corner be confirmed at the detailed engineering design stage. It also recommends that compaction tests of the proposed fill material be undertaken, along with supervision of the fill operations by a geotechnical engineer. These matters are to be covered by draft consent conditions as outlined in Section 4.15 of this report.

Section 7 of the Wardale report describes the four stage process expected to be involved in constructing the reclamation. The dredged material being used for fill is expected to dewater relatively quickly and no geotechnical or natural hazard related issues are anticipated.

3.2.5 Piling Related Matters

Construction of the marina will involve the placement of approximately 160 piles as outlined in Section 15 of the Wardale report. The exact number of marina piles and the depth to which they would be driven have not been determined. This work will be carried out as part of the subsequent engineering design phase. Hollow spun concrete piles are expected to be used for most of the floating structures, except the southern access pier and Pier D walkway where tubular steel piles are favoured because of their more exposed locations and loads.

All of these piles are expected to have polyethylene sleeves for protection purposes.

Timber piles are proposed for the moorings on the northern side of the marina (20 piles in total) and for the boardwalk (approximately 23 in total).

The Wardale report notes that size (diameter) of the different piles will relate to their location and expected function.

The piles are generally expected to be hammered into the 'softer' marine sediment. Some predrilling and then hammering is expected where 'harder' material is encountered. Section 9 of the Riley report addresses the expected lateral loading of the marina piles.

3.3 Ecology & Water Quality

3.3.1 Ecological Investigations & Report

The ecological and water quality values of the marina site and surrounding areas have been assessed by Poynter & Associates Environmental Ltd (Poynter hereafter). Field surveys, including sampling of sediments and marine life have been carried out, and relevant past studies of the area reviewed.

This section of the report summarises the key findings of the Poynter report, a full copy of which is in **Appendix P**. It also highlights relevant findings and provisions on ecological water quality matters in the planning documents relating to the wider Matiatia Bay. The principal documents concerned are the Regional Coastal Plan, and the two district plans. The planning documents for the area do not indicate the site of the proposed marina is of any particular ecological significance.

The site does not include or adjoin any area of special ecological or conservation importance identified in the Regional Coastal Plan. Such areas are generally identified in this plan as 'Areas of Significant Conservation Value' or 'Coastal Protection Areas'.

3.3.2 Reclamation & Dredge Area Habitat Values

Intertidal Area

The beach and rocky intertidal areas affected by and adjacent to the reclamation were investigated during a low water site visit on 23 June 2010. Two low shore beach areas were sampled for grain size and chemistry. **Figure 43** shows the sampling sites.

Rocky (Hard) Shore

The reclamation will directly affect a rocky intertidal area of approximately 1500m^2 and a shallow sub tidal area of patchy rock of about 1500m^2. Section 3.2.2 of the Poynter report notes that the affected area is somewhat variable and includes greywacke, siltstone, some 'introduced' boulders and cobbles, and part of an existing reclamation seawall. At low water the area exposed is 15-30m wide and is typically about 20m wide. Barnacles, Neptune's Necklace algae and Pacific oysters were prevalent with the latter dominating the low to mid shore. Other biota recorded were blue mussels, catseye snails, chitons, limpets, kelp (seaweed) and oyster borers.

Figure 44 contains photographs of the intertidal area to be reclaimed drawn from the Poynter report. The adjacent shallow sub tidal rocky area was observed as being about 5m wide, patchy and mainly covered in kelp.

Beach (Soft) Shore

Section 3.2.3 of the Poynter report notes the intertidal beach flats to the immediate north of the proposed reclamation as comprising relatively coarse sediments. The finest sediments were found around the boat shed/grid and towards the western end. The sediments from two low shore beach areas were sampled and analysed. Less than 5% was found to be 'fine', with the bulk being very coarse sand, pebbles and gravel. The biota was found to be very limited, being almost exclusively small pipi. The density of pipi appeared to be greatest around the boat grid, where there are the finer sediments. Pipi were found to be more abundant, although still small, in the adjacent shallow sub-tidal areas. Whelks and other common biota were also recorded in sub-tidal areas.

The Poynter report contains photographs of the areas, along with details of the recorded biota and sediment analysis.

Sub-tidal Area

The sediments in the sub-tidal area were sampled from six locations and analysed for grain size chemistry and biota as outlined in Section 3.3 of the Poynter report. Three of the sites are within the proposed dredging area and three are within the much larger wider marina 'footprint' area. A composite analysis of the sediments from each group (of three) was carried out. The near surface samples for the three dredge area samples were found to be mostly fine to very fine sands, with small fractions of silts clays and coarser material. An analysis of deeper sediments from this area found, as expected, medium to fine sands, with negligible other material. The composite samples from the wider area were similar with a somewhat higher proportion of pebbles.

The biota was found to be diverse. A total of 65 different taxa were recorded. For each sample the number of taxa ranged from 26-31. Polychaete worms, crustaceans and bivalves were the most abundant. Asian date mussels (an exotic species) were very common at two sites and the introduced rice shell was common at five sites. The biota was also high in abundance at all of the sites. Overall the community is described as a mixture of typical species found in harbour and moderately exposed coastal areas.

Section 3.3 of the Poynter report notes that the 2010 investigation findings are consistent with those reported in the 1991 Beca EIA for the new Matiatia wharf. Although different sampling methodology was used in the two investigations the 1991 report found in relation to the sub-tidal habitats no rare species and no concentrations of edible species or particularly high densities of other species. The Poynter report notes that 1991 investigation did not report Asian date mussel. This species may have colonised the area over the last twenty or so years.

3.3.3 Breakwater Area Habitat Values

The intertidal hard shore in the vicinity of the proposed breakwaters was inspected in September 2012, focussing on three locations. The locations are shown in **Figure 41**.

Rocky Hardshore

Section 3.2 of the Poynter report records that the upper and mid shore areas were dominated by pacific oysters. Periwinkle, whelks, top shell and barnacles were also present. The lower shore areas had more diverse communities with less oysters present. Brown algae and coraline turfing algae present. The seaward facing sub-tidal zone had a conspicuous fringe of small algae and kelps.

Figure 45 contains selected photographs of this area from the Poynter report.

Sub-tidal Area

The sediments in the sub-tidal area were sampled from ten locations and as with the reclamation area analysed for biota. **Figure 43** shows the sampling sites. As outlined in Section 3.2 of the Poynter report the biota was found to be diverse with a total of 49 different taxa being recorded. For each sample the number of taxa ranged from 10-22, which is less than the number recorded in the reclamation and dredging area in 2010.

Polychaete worms, crustaceans and bivalves were the most abundant, like in the other area. Burrowing fauna, notably the heart urchin and deep burrowing shrimp, were more conspicuous.

The introduced Asian date mussel and rice shell were found as in the reclamation and dredging area but were not as common as recorded in the 2010 survey. Empty parchment worm tubes (another exotic species) were also found.

Overall the community is described as quite diverse but containing a common range of taxa found in areas with moderately exposed coastal areas. It was similar to that recorded in 2010 in dredging and reclamation area, although reflects the coarser sediment present.

3.3.4 Sediment & Water Quality Conditions

The Poynter investigation involved sampling and analysis both of surface sediments and subsurface (bulk) sediments. The sediments were analysed for various heavy metals, i.e. arsenic, cadmium, chromium, copper lead, nickel and zinc, in relation to recognised Australian/New Zealand (ANZECC) and Canadian (CCME) sediment quality guidelines. The bulk sediments were also analysed for these and other parameters and compared to the Councils 'clean fill' guidelines, which apply to material used in reclamations. The investigation findings are in Section 3.3.3 of the Poynter report.

Surficial Sediments within Marina Footprint

The surficial sediments from six sites within the marina footprint were analysed. The approximate locations of the sampling sites are shown in **Figure 43.** The sediments were found to be generally unpolluted and in a natural and healthy state, except for a high lead value at Site A. All of the mean values were found to be below the ANZECC 2000 Interim Sediment Quality Guidelines Low Value (ISQG-Low) and also below the CCME values.

The Poynter report notes that the Site A lead result was not expected and may arise from debris and other material observed nearby close to the shore. The result was also just above the ANZECC 'low value' guideline but well below the 'high value' guideline. It was also well below the CCME guideline. The ANZECC 'low value' guideline threshold' is one where there is predicted to be a low probability of toxic effects on benthic biota and any adverse effects would be rare. The ANZECC 'high value guideline is a threshold above which there is likely to be a high risk of biological effects and at which the sediments could be considered polluted. None of the Matiatia sediment results approached or exceeded the 'high value'.

Bulk Sediments Within Marina Footprint

The deeper bulk sediments from two locations within the proposed dredging area (A&C) were analysed for heavy metals and a number of other parameters, notably, hydrocarbons, semi volatile and volatile organic compounds, polyaromatic hydrocarbons, boron, cobalt, mercury and tributyl tin. All of the heavy metal concentrations were found to be below the ANZECC 'low value' guideline. The bulk sediments are to be considered unpolluted.

The Poynter report notes that the levels of semi volatile and volatile organic compounds, along with polyaromatic hydrocarbons were at trace levels and show there is no pollution from these substances.

The bulk sediments were also analysed in terms of the 'clean fill' standards in Rule 5.5.41 of the Operative Regional Air Land & Water Plan. They were found to meet the standards and as such able to be used in the proposed reclamation without risk of potentially adverse leachate effects.

Surficial Sediments Adjacent To Boat Grid

The surface sediments from several sites adjacent to the existing boat grid were sampled and analysed. The approximate sampling locations are shown in **Figure 43.** This work was undertaken because although the sediments around the boat grid will not be disturbed through dredging or other marina construction works, the facility is close to the marina and some berth holders may be interested in using it.

The Poynter investigations found elevated copper and lead levels in the sediments around the boat grid. The copper and lead levels were above the ANZECC Low value guideline but well below the ANZECC High value guideline level. The Poynter report notes however that the copper (but not lead) levels in the sediments were also above the Canadian Sediment Quality Guidelines (ISQG - CCME 2002).

Water Quality

No water quality measurements were undertaken as part of the Poynter investigation, because minimal dredging and other significant works are proposed. However the Poynter report notes that water quality is expected to be high, being influenced by the daily coastal flushing of the area and very limited stream or other inputs.

The Poynter report notes that there is no specific water quality 'standard' for the local waters in Matiatia Bay identified in the Regional Policy Statement or the Regional Coastal Plan. General performance criteria are applicable to the local waters in respect of water quality.

3.3.5 Birdlife

Birdlife in the northern bay area was not surveyed as part of the Poynter investigations. This is because as outlined in Section 3.7 of the Poynter report there are no soft shore wader habitats at the site and the wider area is not identified in any regional or district plans or published reports as having any significant birdlife values. The Poynter report notes the findings of the 1991 Beca EIA for the new Matiatia wharf that the surroundings contained no important bird habitats and that only common species such as black shags, black backed gulls and red billed gulls and were observed

The Poynter site visit and subsequent investigations indicate that a range of other common seabird and passerine species are likely to frequent the area, such as grey reef heron and kingfisher. The Poynter report notes that other species, like gannets and terns, may on occasions also visit the bay, primarily to feed. It also records information from the Royal Forest & Bird Protection Society on this matter. The Society highlighted the abundant and increasing birdlife in their Atawahi Whenua reserve on the southern side of the bay.

Section 3.7 of the Poynter report notes a submission on the 2010 marina project regarding the presence of northern blue penguin and possible use of wharf seawall, shore and inland areas for nesting. The report notes that there is no suitable nesting habitat in the vicinity of the proposed reclamation or adjacent shore. The report notes that the species are quite variable in nest selection and may use artificial nest boxes.

3.3.6 Fisheries

Fish life in the bay was also not specifically surveyed in the Poynter report. However field observations and reports from other sources indicate it is typical of a small bay on an island like Waiheke.

Section 3.8 of the Poynter report notes the findings of the 1991 EIA for the 'new' wharf which found abundant and varied fish around the 'old' wharf but few fish in the adjacent sandy bottom areas. Fish species likely to use the area include mullet, flounder, kahawai, koheru, kingfish, snapper, trevally, parore, rays and small wrasses.

The report also notes the likely presence of stingray based on information received from a submitter on the 2010 marina project. It also records that with no significant inflowing perennial streams flowing into the bay eel, inanga and other diadromous freshwater fish are unlikely to reside or pass through the bay.

3.3.7 Effects on Invertebrates

Breakwaters

Section 4.1.3 of the Poynter report notes that the two breakwaters will occupy a seabed area of approximately 5800m^2. The loss of this area of sub tidal habitat will to some extent be 'offset' by the estimated 4000m^2 of intertidal and sub tidal habitat created, incidental to the creation of the breakwater walls. As outlined in the report the 'new' habitat area created will be more taking into account the individual rock surface areas and voids between them. This 'new' hard marine habitat, although different to the 'soft' seabed is considered to be of some ecological value based on observations from other similar structures.

The report notes that the 'new' habitat will support a less diverse community, although the exposed sub tidal area is expected with time to become more complex and similar to the natural ones nearby. This is expected to be of some benefit to the local reef fish populations and introduce an element of physically complex habitat into the bay.

Piles & Floating Structures

The Poynter report (Section 4.1.3) notes that pile driving associated with installation of the floating structures will disturb/displace some invertebrates. However these effects will be very localised, relatively short term, like the dredging. They will also be 'offset' by the 'new' habitat created on the piles and floating structures. The floating structures and piles will support a limited range of encrusting and other organisms, e.g. kelps, limpets and snails. They will contribute an element of physical diversity and create some ecological opportunities both for invertebrates and fish.

Dredging

Dredging of the marina basin will result in the temporary loss of nearly all invertebrate life in the affected sub tidal area. However as outlined in Section 4.1.3 of the Poynter report the invertebrate fauna, although abundant and healthy, is not particularly notable in terms of its diversity or type. The invertebrate species present are relatively common and are likely to be well represented in the wider bay and more generally the moderately sheltered coastal waters of the Hauraki Gulf.

The Poynter report estimates there are around 397 ha of sandy sub tidal habitat in Matiatia Bay. The habitat 'loss' of approximately 7200m^2 represents about 2% of the total habitat type in this vicinity (i.e. excluding areas beyond Matiatia Bay). The 'loss' of this small habitat area is not significant and with expected re-colonisation, will not have an adverse effect. The report notes that because the new seabed exposed is likely to be similar in texture to that which occurs at present, then re-colonisation by a similar assemblage of biota should occur rapidly over a period measured in a few months to not more than 1-2 years.

Reclamation & Boardwalk

Section 4.1.1 of the Poynter report notes that the proposed reclamation of approximately 3200m^2 will affect an area of approximately 1500m^2 of largely rocky habitat that is typical of the reef edge and shallow margins of the bay. The Poynter report estimates there is about 2.5ha of such rocky habitat around Matiatia Bay and thus the reclamation loss of represents about 6% of this habitat type locally.

The Poynter reports notes that the habitat type is common. The loss of intertidal rocky habitat, although permanent, is of a small percentage particularly when seen against the backdrop of the general availability of such habitat around Waiheke Island. The field investigations did not reveal any rare species or other features of biological note within the affected area. The report notes that the boardwalk which will cross the intertidal zone and have no adverse effects. The report also notes that the permanent loss of rocky habitat will to some extent be offset by the additional area of sub tidal and intertidal habitat created around the outer rock faced wall of the reclamation.

The outer wall being of an 'open' rock boulder design will provide a relatively large surface area available for colonisation by marine life. The Poynter reports cites experience elsewhere which confirms that intertidal animals and small reef fish are likely to utilise this habitat. The area of 'new' intertidal and sub tidal habitats are estimated to be approximately 350m^2 and 110m^2 respectively. Taking into account the above matters the Poynter reports considers the ecological effects of the proposed reclamation to be insignificant.

3.3.8 Effects on Vegetation

Section 4.1.1.2 of the Poynter report notes that the area adjacent to the reclamation is steep and will not be disturbed. There are patches of native shrub vegetation including clumps of pohuehue and a small pohutukawa. The report notes several large pohutukawa to the north. They will also remain undisturbed with the proposed boardwalk skirting around the edge of them.

3.3.9 Effects on Birdlife

Reclamation & Boardwalk

Section 4.1.3.2 of the Poynter report notes that the reclamation will result in the loss of some intertidal feeding habitat for herons and oysters catchers. However it considers the area lost is very small in relation to the remaining available wider area habitat.

The proposed boardwalk will also cross an area of rocky intertidal habitat. The boardwalk is also expected to encourage more people to walk around the foreshore. However as outlined in the Poynter report the structure and the additional people movements will have no more than minor effects on bird feeding and use of the area.

Dredging

The proposed marina itself will not directly affect any intertidal soft shore bird feeding areas. As noted in Section 4.1.2 of the Poynter report the area to be dredged is completely sub-tidal.

The Poynter report notes that soft shore habitat of wading birds in the northern bay is limited to a small coarse substrate area possibly used intermittently for feeding by herons and oystercatchers. This habitat is not suitable to species such as dotterels, godwits and the like.

Dredging is expected to have no adverse effects on birdlife or bird feeding. This is because the dredging is only expected to take a few weeks so the potential for disturbance will be of a very short term nature.

Breakwaters, Floating Structures & Pile Moorings

Section 4.1.3.2 of the Poynter report also notes that shags, terns and other birds probably feed at times in the waters of the northern bay and these opportunities will be reduced with the significant increase in marina and other structures, including pile moorings. At the same time the report identifies possible benefits to shags from the 'cover' provided by the new structures and their ability to stalk prey.

The Poynter report considers that the open boulder dry areas of the breakwaters have the potential to be used by blue penguins for nesting. The secondary breakwater will be completely 'isolated' from the land and should be completely predator free. The primary breakwater, although connected to land, should also be relatively predator free. The report notes that blue penguin are identified in publications as a 'near threatened' or 'at risk' species, although data on populations is poor. The report recommends that several nesting sites (boxes) be established on the secondary breakwater and monitored for use blue penguin for the two years following establishment. A consent condition on this matter is being proposed (Ref. Section 4.15).

3.3.10 Effects on Fisheries & Marine Mammals

The Section 4.1.3.2 of the Poynter report notes that water will flow unimpeded around the breakwaters and through the floating structures and not affect movement of fish. It highlights the often abundant fish found in well flushed marinas.

The report notes a submission on the 2011 marina project regarding the observations of orca within Matiatia Bay. It considers that because these mammals have a wide ranging habitat any reduction in ability to enter the northern part of the bay because of the marina would not be significant.

3.3.11 Effects on Water Quality

Dredging & Removal of Reclamation Undercut

Removal of the bottom sediments may cause turbidity beyond the immediate work area. The coarser sandy sediments are expected to settle reasonably quickly and it will be the fine silty material which will have the most effect. As noted in Section 4.2 of the Poynter report they are expected to constitute a low percentage (around 5% in the two samples) of the total volume. As such a significant dredging 'plume' beyond the working site is not expected. The small volume of material to be removed, it's shallow near shore location and the method of dredging/undercutting will also be important factors that reduce the turbidity related effects of the operation.

The potential effects of a dredging 'plume' include reduced light penetration (which can suppress phytoplankton productivity) and sedimentation (which can smother benthic invertebrates and affect gill and filter feeders). However the Poynter investigations indicate that because of the factors mentioned above and the generally unpolluted nature of the sediments, the effects on local biota are expected to be of a minimal nature. Dredging by hydraulic excavator minimises losses of sediment between the seabed and the receiving barge. Experience at other marina developments where the effect of dredging on the visual clarity of waters has been monitored, has shown minimal effects which indicates that sediment losses are relatively small.

The Poynter report cites the construction monitoring results from the marinas at Bayswater and Orakei (Waitemata Harbour) and Opua (Bay of Islands) to support the minimal effects view. At Opua a hydraulic digger was used to remove significant quantities of sediments. The monitoring of visual water quality by the black disk method showed that down current optical clarity was not significantly different from the up current (background) clarity. The results from the Bayswater and Orakei marina investigations also found that effects on water quality (due to turbidity) and the deposition of fine sediments were restricted more or less to the immediate works area.

The Poynter chemical analysis of the dredging area sediments indicates they are generally unpolluted and without significant concentrations of otherwise potentially bioaccumulative or toxic compounds. As such, there is a negligible risk of sediment-sorbed and dissolved contaminants being released to the water column at other than trace concentrations.

The Poynter report notes that Matiatia Bay site is reasonably well 'flushed' ensuring that any potential pollutants (and particular sediments) which escape from the immediate works area are unlikely to remain or accumulate in sufficient quantities within the dredging work area to be of concern in terms of toxicological or smothering effects. However consideration has been given to the potential for turbid water to affect visually sensitive areas such as the beaches to the north and south.

The report considers that significant turbidity or pluming beyond the works area is unlikely to be an issue because of the small volume and short time frame involved, the predominantly sandy nature of the sediments and relatively 'open' nature of the bay. Experiences elsewhere show that visual water quality effects are more likely to be an issue in predominantly muddy, semi enclosed, relatively quiescent environments.

The report cites initial concerns about significant reductions in visual water quality during construction of the Doves Bay (Kerikeri Inlet) marina and the Tutukaka marina expansion. They are in a semi enclosed embayment and a small enclosed harbour respectively. The potential risk at both locations was managed primarily by use of floating geotextile booms. Monitoring showed the booms were effective at both sites in confining visual effects to within the work perimeter. In contrast, visual water quality was not an issue during construction of the Opua marina, which is in a more exposed and better flushed location. The moderate to strong currents around the Opua marina site also effectively precluded the use of a geotextile screen.

Use of a floating geotextile screen to limit the water quality effects of the dredging and reclamation undercut operations at the Matiatia site is recommended in the Poynter report. The report also recommends a primarily visual based monitoring programme be carried out. A log book record of daily inspections of the visual state of the waters is proposed and if specified visual 'triggers' are not met then some surface water grab based collection and turbidity analysis be undertaken The proposed monitoring is explained in Section 6 and detailed in Appendix 6 of the Poynter report. Consent conditions on this matter are being proposed (Ref. Section 4.15).

<u>Grey Water & Sewage Discharges</u>

Uncontrolled discharges of grey water and sewage from boats in the marina are a potential threat to water quality. Provision of a pump out facility as part of the marina development will be important in limiting this as will the berth licence conditions and marina rules. Section 4.2.5 of the Poynter report cites bacteriological water quality monitoring undertaken at several existing marinas has not identified any significant problems in respect of these matters. However the need to ensure that bacteriological levels within the marina and adjacent bay are kept low is noted, especially as people use the water for informal recreational use.

The Poynter report recommends that periodic bacteriological monitoring be carried out once the marina is in operation to check that bacteriological levels are remaining low. The nature of the proposed monitoring programme is outlined in Appendix 6 to the Poynter report.

Stormwater Discharges

The stormwater discharges of treated runoff from the reclamation are not expected to have any significant effects on water quality as outlined in the Poynter report. All of the runoff is to be passed through filtration devices designed and installed in accordance with TP 10. The facilities are expected to be regularly inspected and accumulated material removed and disposed of at an approved site as part of an ongoing maintenance programme. Overflow bypasses are to be provided to prevent runoff from infrequent high intensity rainstorms 'flushing out' accumulated material.

The above matters are expected to be dealt with through consent conditions requiring preparation and implementation of a stormwater management plan for the reclamation (Ref. Section 4.15). The Poynter report notes that on this basis the stormwater discharges will have no adverse effects on coastal water quality.

Fuel Related Discharges

Hydrocarbon films from small fuel discharges are found in all marinas. However as noted in Section 4.2.2.2 of the Poynter report they tend to be of a localised small scale nature and being highly volatile quickly dissipate. Whilst little research information is available on the effect of unburnt fuel on water quality at marinas, the presence of filter feeding bivalves, grazing gastropods and fish within existing marinas indicates that any contamination is not typically significant in appropriately located and well managed marinas.

Leaching of Antifoulants

The leaching of antifoulants (mainly copper and zinc) from boats in the marina is a potential water quality issue. Section 4.2.2.1 of the Poynter report reviews relevant literature, including the monitoring results from marinas in the Auckland, Coromandel and Northland regions. This includes the most recent 2012 Auckland Council Technical Report on Anti Foul Biocides in Marinas, prepared by NIWA, which investigated the concentrations of copper in the water at eight marinas.

The Poynter report explains the background to the NIWA investigations and how the findings relate to the proposed Matiatia marina. Although some increase in background levels is expected at Matiatia it is unlikely to be a significant problem because of the small size of the marina, its 'porous' configuration, lack of boat hardstand and similar facilities and potential for regular flushing. The report notes the potential for filter feeders like the pacific oysters in the area to bio-accumulate copper but the risk is expected to be localised and minor. To verify the predicted lack of any adverse effect on sediments and shellfish the Poynter report proposes periodic trace metal monitoring.

The nature of the trace metal monitoring is outlined in Section 6 and Appendix 6 to the Poynter report. The shellfish monitoring is to be confined to pacific oysters, as an indicator of other species, and focussed on analysis for copper.

Possible Discharges from Boat Maintenance

Boat maintenance activities within the marina are to be strictly controlled under the marina rules. They are expected to be limited to be internal electrical/mechanical and other repairs. Significant exterior cleaning and repairs to craft (other than of an emergency nature) will be prohibited under the rules.

The nearby grid in the bay may possibly be used by some berth holders. The grid is operated by the Waiheke Mooring Holders Society Inc. in terms of coastal permit No. 29964. Attached to the coastal permit are a number of conditions.

Condition 6 of the permit effectively requires the Society make the grid available to any person wanting to use it, although all work must be undertaken in accordance with the former ARC Draft Auckland Boat Maintenance Guidelines (2004) set out in Condition 12. Also Condition 10 only permits hull cleaning by hand scrubbing or low pressure water blasting.

The Poynter report notes that the small capacity of the grid and restricted conditions under which it can be used (including hand scrubbing and low pressure water cleaning) are unlikely to make it attractive to marina berth holders for significant maintenance work. However the report recognises that with many more craft in the bay some increase in grid use is possible. This is a matter that the Society and Council are expected to monitor and respond do rather than WML.

3.3.12 Biosecurity Considerations

Section 4.2.4 of the Poynter report notes the increasing public interest in biosecurity and the information becoming available through the Ministry of Primary Industries, NIWA and the Hauraki Gulf Forum. The forums 2011 State of the Environment report records the large number of introduced marine species, four of which have the potential to cause potential significant economic or ecological effects.

The report notes the potential for boats in marinas to be a potential source of unwanted organisms and the opportunities for this to be reduced through management plans, monitoring and other techniques. A Biosecurity Management Plan is suggested.

3.4 Landscape & Visual Amenities

3.4.1 Existing Landscape Setting

The landscape values of the marina site and surrounding area and effects of the proposed marina on these values and associated natural character and amenity values have been assessed by Rob Pryor of LA4 Landscape Architects Ltd.

The following sections of this report contain the key findings of the assessment along with some additional information. The LA4 report is in **Appendix I** of the supplementary report documents.

<u>LA4 Report</u>

Section 3 of the LA4 report describes the marina and site and surrounding coastal environment. It notes the following;

- Matiatia is a small and narrow west facing bay with two rocky headlands;
- The bay is enclosed by east west running ridgelines and steep slopes that drop down into the bay to the north and south;
- Dwellings are prominent on the surrounding land, along with olive groves, pasture and indigenous vegetation;
- The bay contains a large number of moorings along with wharves, boat ramps, a grid and other structures;

- The ferry terminal occupies a prominent site at the head of the bay with the car parks further inland being less visible from the water;
- The historic reserve is largely undeveloped and difficult to access at high tide from the ferry terminal area;
- The outer (western) part of the bay has high natural character values, whereas the inner (eastern) part is distinctly modified; and
- The bay landscape is an ever changing one due to its mooring/ferry commuter/tourist visitor focus.

Waiheke Island Coastal Landscape Assessment

The LA4 report records the findings of the 1984 Waiheke Island Coastal Landscape Assessment as they apply to the area. The western margins of the bay were given a landscape quality rating of 5 (on a 1-7 scale) and as such are identified in the Regional Coastal Plan as a 'Regionally Significant Landscape'. The proposed marina does not extend into the identified area, the relevance of which is outlined in later in this report.

The LA4 report notes that the 1994 landscape assessment was undertaken before the surrounding land was subdivided and built on. It was described at the time as "*open pasture with scattered trees*". There are now a number of houses and some accessory buildings in the area. The extent of the existing built development is shown in the **Figure 1** aerial and photographs in **Figure 46.**

3.4.2 General Consideration of Marina Related Landscape Effects

The marina site adjoins an existing reclamation and wharf area where there are a number of structures. The marina will introduce a number of 'new' structures into the area. The most significant in terms of permanency will be the reclamation and breakwaters.

Reclamation

The reclamation of approximately 3020m^2 will only extend out to the edge of the existing boat ramp and be well within the 'line' of the two wharves as shown in **Figure 21**. However it will be a significant visual element in the particular corner of the affected bay. This is despite significant reclamation having occurred in the past, the extent of which is not possible to determine from a review of survey plans and other information. Some of the past reclamation is contained within the historic reserve as shown in **Figure 21**.

At MHWS (+2.8m CD) the upper 1.7m of the reclamation will be visible as indicated in the **Figure 22** cross sectional plan. At MLWS (+0.3 CD) most of the structure (4.2m) will be visible.

Rock Breakwaters

The two rock breakwaters will occupy a larger seabed area (approximately 5775m^2) than the reclamation. However they will be less visible in area terms as much more significant areas will be covered by water during the tides. The primary breakwater will rise about 8.3m vertically above the seabed to a 4m wide 'top' containing a 1.5m wide footpath as shown in **Figure 13**. At MLWS the uppermost 4.2m of the structure will be visible, whilst at MHWS approximately 1.7m will be visible.

The smaller secondary breakwater will also rise 8.3m over the variable sea bed to a 2m wide 'top' as shown in **Figure 13**. As shown in the typical cross section at MLWS the uppermost 4.2m of the structure will be visible, whilst at MHWS approximately 1.7m will be visible.

Floating Structures

The floating piers have a much lower horizontal profile (up to 0.5 metre) which also moves with the tide. It is the boats, particularly the masts, rather than the structures that are the more visually significant element. The masts and to a lesser extent the angular and often reflective boat hulls, will contrast with the surrounding water. However, these forms are already present in large numbers in the area and form part of the existing landscape/seascape.

The marina will result in a higher density of boats and in a more regular configuration but will not substantially alter the landscape character or visual amenity of the area.

Matiatia Bay Overview

The proposed marina is of a form and scale that will sit comfortably with other built elements in the Matiatia Bay area. When viewed from surrounding areas by the different viewing audiences the additional structures and craft are not expected to have adverse landscape or visual effects. The landscape and visual effects of the marina will vary according to the different viewing locations.

3.4.3 Visibility Analysis

Landscape effects result from natural or man-made changes in the elements, character or quality of the landscape. Usually these are the result of landform or vegetation modification or the introduction of new structures, activities or facilities into the landscape. The effects are somewhat different from many other environmental effects because their assessment involves evaluating the viewing audience, their likely perceptions and responses to changes in the landscape. They are to this extent much more subjective.

The marina will clearly be visible from both the land and water. Similar to the existing moorings and facilities on and adjacent to the existing ferry terminal the marina will have a number of viewing audiences, these being:

- Ferry users and people undertaking recreational boating in the bay;
- People using the Matietie historic reserve and boardwalk to Owhanake Bay;
- Residents and visitors to the generally elevated properties around the northern, eastern and southern part of the bay;
- People using the walkway to Church Bay; and
- People using the ferry terminal and other shore based facilities;

The LA4 report assessed the landscape and visual effects of the marina from seven different viewpoint locations. The chosen viewing locations are shown in **Figure 47.**

Viewpoint 1 is from a boat close to the entrance to Matiatia Bay and representative of ferry users and people boating in the bay. Viewpoints 2 and 4 are from within the historic reserve and representative of reserve/walkway user views. Viewpoints 3 and 5 are close to houses on elevated properties on the northern side of the bay and indicative of private views. Viewpoint 6 is from the end of the main wharf containing the ferry terminal. Viewpoint 7 is from the walkway to Church Bay and close to some of the properties on the southern side of the bay that will view the marina.

Build Media Ltd (BML) has prepared photomontages and visual simulations of the marina from the seven viewpoints. The data and techniques used to develop the photomontages and visual simulations are explained in the BML Visual Simulation Methodology Report in **Appendix Q**.

3.4.4 Landscape & Visual Effects

The photomontages and visual simulations and field observations were used by LA4 to assess the landscape and visual effects of the marina. A Visual Effects Matrix was developed to ensure a consistent evaluation.

The Visual Effects Matrix is in Appendix A to the LA4 report. A five point scale scoring (very high/high/moderate/low/very low) was used in accordance with the NZ Institute of Landscape Architects Best Practice Note 2010.

The key findings of the LA4 assessment in summary form are:

Ferry & Small Boat Users on the Water

The proposed marina and associated boats will be clearly visible from the water, as illustrated by the **Figure 48** photomontage from Viewpoint 1. However as shown in the photomontage the breakwaters will tend to 'hide' the other marina structures and berthed craft behind them. Viewpoint 1 is approximately 380m west of the proposed primary breakwater and the photograph was taken at low tide.

The LA4 report notes that the marina and berthed craft will be viewed within the context of the surrounding modified environment both in the water and on the surrounding hills. The marina is expected to be viewed as an integral part of the surrounding modified coastal environment and the effects are assessed as being of a low nature.

Northern Bay Residents & Visitors

Figures 49 & 50 contain low tide and high tide visual simulations of the marina based on photographs taken from a private property on the north-western slopes of the bay in an elevated position near the coastal reserve walkway (Viewpoint 3). **Figures 51 & 52** are taken from a private property further to the east and at lower elevation (Viewpoint 5).

The views which residents and visitors to properties in the northern part of the bay will experience will vary according to the relative position, height and outlook of the dwellings and other viewing areas. Their foreground views of the bay will more modified in terms of both structures and boat numbers following occupation of the marina. However their views will in most, if not all of the situations, be within the context of the existing moorings and the built development around the existing wharves.

No residents are expected to experience a complete change in view from one of predominantly 'natural' elements to one of predominantly 'built' elements. The landscape and visual effects from these two viewpoints are assessed by LA4 to be moderate.

Matietie Historic Reserve Users

Figures 53 & 54 contain visual simulations of the marina from the coastal walkway in the reserve to the north of the site (Viewpoint 2) whilst **Figures 55 & 56** and from the reserve upper foreshore at the head end of the bay (Viewpoint 4).

Viewpoint 2 is quite elevated, whilst Viewpoint 4 is at a much lower elevation. The elevations of the viewpoint locations relative to chart datum are recorded on the figures.

The Viewpoint 2 simulation illustrates how the marina will relate to the existing built development context of the bay. It will extend the on water development in terms of structures approximately 300m further north-west into the bay (being the north-western corner of the secondary breakwater) relative to the two wharves. The LA4 report assesses the landscape and visual effects from this viewpoint to be moderate.

The Viewpoint 4 simulation also shows the dominance of the current ferry terminal development and moored craft on views of the northern part of the bay. The marina will increase the level of built development extending into views from the beach and other low level reserve viewing points but not fundamentally alter them.

As noted in the LA4 report the 'ordered' marina will lessen the 'sporadic character' of the existing boats on swing moorings, whilst the reclamation will bring parked cars closer to the viewer. The LA4 report notes the pohutukwawa trees on the edge of the beach will help soften the development. The effects from this viewpoint are assessed by LA4 to be low to moderate.

Church Bay Walkway Users

The visual simulations in **Figures 57 & 58** are based on photographs taken from the walkway leading from Matiatia Bay to Church Bay (Viewpoint 7). This walkway is used by both residents and visitors and the viewpoint chosen is reasonably 'representative' of the views of the marina from this location.

The LA4 report notes that the area around the walkway has a high level of landscape amenity and quite expansive views of the marina site. However it notes that the viewing area has a reasonably good visual absorption capability due to the wharf/ferry terminal and surrounding built development. The landscape and visual effects are assessed to be low.

Residents & Visitors to Properties on the Southern Side of the Bay

Some of the residents living on properties on the southern side of the bay are expected to have similar views of the marina as the Church Bay walkway users. There are six houses within approximately 500m of the **Figure 57 & 58** (Viewpoint 7) location.

As with the property owners on the northern side of the bay the views each southern side resident has of the marina will vary according to the position, height and outlook of their dwellings. The views will be more distant with the closest house being approximately 600m from the southern side of the marina. All of the views from the southern side of the bay are expected to be within the wider built maritime context of the Matiatia wharves/ferry terminal and built development on the hillsides around the northern bay. The LA4 report assesses the landscape and visual amenity effects from this viewing audience to be low.

People Using the Ferry Terminal, Wharves and Other on Shore Facilities

The visual simulations in **Figures 59 & 60** are from the western (seaward) end of the ferry terminal (Viewpoint 6). This group of viewers will often be similar to those identified above as most users of the on shore facilities will have travelled by ferry or small craft to the site.

However a significant number will have driven or walked and will approach the site from the inland or eastern side. Their views of the marina will also be from low locations and within the context of the built development, including the ferry terminal, wharves, roads and parking areas that are adjacent to the marina site.

The LA4 report notes that for this group views of the marina will also be strongly influenced by the present 'cluster' of built development around the ferry terminal, including the boat ramps, roads and parking areas that adjoin them. This existing development will tend to dominate views of the marina and surrounding area from most shore based locations close to the site. As such the landscape and visual effects of the marina are assessed by LA4 as being low.

3.4.5 Visual Amenity Effects

The LA4 report contains an assessment of the visual amenity related effects of the marina in terms of private residential amenities and public recreational amenities. The effects of the marina lighting on the night-time amenity values of the area are also assessed.

Private Residential Amenities

The private residential amenity assessment is made in relation to the views obtained from five nearby residences (Viewpoints A-E).

Two of the residences are to the north of the marina off Alan Murray Lane (Sandars – Viewpoint A) and Delamore Drive (Mitchell – Viewpoint B), one is to the east off Ocean View Rd (Aandewiel & King – Viewpoint C) and two are to the south off Nick Johnstone Drive (Magee – Viewpoint D & NZ Trust – Viewpoint E). **Figure 61** shows the locations of the residences, whilst **Figures 62-66** show the views obtained.

The LA4 report considers the amenity related effects of the marina on the Sandars and Mitchell residences to the north and also the Magee and NZ Trust residences to the south will be low or very low (Sandars). The effects on the Aandewiel & King residence to the east are assessed as being moderate due to their proximity to the marina development and its east–west extension out into the open bay.

Public Recreational Amenities

The LA4 report notes that the marina will extend into some areas that do not contain swing moorings and impede kayak and other small recreational craft access to the northern bay. As a result there will be some loss of recreational amenity. However the report notes that the boardwalk from the reclamation around to the northern beach and Matietie historic reserve will improve public access and the wider recreational amenities of the bay.

Night Time Amenities

The LA4 report notes, with reference to night-time photographs of the site from the Magee residence on the southern side of the bay, the existing high level of lighting associated with the ferry terminal and surrounding car parking areas. This is illustrated in the **Figure 67** photograph.

Comparisons are made with the relatively low levels of lighting shown from photographs of three existing marinas in the Auckland region (Bayswater, Orakei and Outboard Boating Club). Attached to the LA4 report are night-time photographs from the three existing marinas.

The LA4 report finds, based on this photographic comparison and a review of the proposed lighting design in the Light Group Ltd report, that the marina lighting will have a low effect on the night-time amenity values of the area.

3.4.6 Natural Character Considerations

The Act requires the preservation of the natural character of the coastal environment (including the coastal marine area) from inappropriate subdivision, use and development as a matter of national importance (Section 6a). This requirement is reflected in the policy framework of the Regional Policy Statement, Regional Coastal Plan and District Plan which are discussed in Section 4 of this report.

'Natural character' is a term used to describe the naturalness of all coastal environments. The degree or level of natural character within an area is generally considered in relation to three components – 'natural elements', 'natural patterns' and 'natural processes'. 'Natural elements' relate to the presence of unmodified land and water forms, and the relative absence of buildings.

'Natural patterns' are more concerned with the appearance, i.e. whether a landscape appears to be a product of nature rather than human endeavour. Natural processes are the less apparent ecological 'underpinnings' of an area, i.e. the processes such as erosion, deposition and vegetation succession, which sustain the natural appearance of an area. The effect of different types of development upon the natural character of an area varies with its context, and may be perceived differently by different parts of the community.

Section 4 of the LA4 report contains a natural character effects assessment. It notes that Matiatia Bay area, like all others around Waiheke Island, contains a number of natural elements, patterns and processes. Its 'natural elements', notably the tree clad hillsides, waterside groups of pohutukawa and 'open' waters, are counterbalanced by the many man-made structures referred to earlier.

Likewise in terms of 'natural patterns', whilst the upper bush covered hillsides are seen from most locations, the large number of buildings and structures around them make the human imprint on the landscape very evident. 'Natural processes' (other than tidal changes) are also not strongly visible in the landscape, even though they underpin it.

Overall whilst having significant 'natural elements', and to a lesser extent 'natural patterns' and 'natural processes', the area has a noticeably built and highly modified character. The existing wharf/ferry terminal area, together with its associated activities and structures including buildings, boats and vehicles, along with numerous boats on swing moorings, diminish the natural elements and patterns and reduce the overall natural character values of the area.

The main 'natural elements', i.e. the bush covered upper hillsides and the lower waterside pohutukawa, will not be affected by the proposed marina. Their value in generally defining the 'upper' and 'lower' 'natural' landform margins of the bay will remain.

The addition of the marina and a larger number of berthed craft will make the inner bay more modified and less natural. However the key 'natural elements' present in the area will not be diminished. Similar comments apply to the 'natural patterns' in the area. The 'natural processes' currently evident in the area will be largely unaffected. As outlined earlier the marina will have very little impact on currents, sedimentation and ecological communities.

3.4.7 Landscape Design & Mitigation Measures

The marina and associated works will further change the landscape and 'natural' character of Matiatia Bay, especially the inner most margins. It will give the ferry terminal area and wider bay a more 'built' character. Little can be done in terms of design and layout of the marina structures to mitigate, what have been assessed by LA4 as low –moderate landscape and natural character effects.

Significant screening of the marina is neither possible nor appropriate given the existing 'maritime' character of the area. Most attention has focussed on the design and appearance, including landscaping of the reclamation, deck/boardwalk and breakwaters. Consideration has also been given to the design and appearance of the floating office.

Breakwaters

The visible outer armouring of the breakwaters will be specially selected rock as described in the IMC and LA4 reports. The rock is expected to be sourced from the Coromandel and be similar to the rock used in the breakwater at the Kennedy Point ferry landing. As outlined in the LA4 report this rock closely resembles the local Waiheke rock which will assist to blend the breakwaters into their coastal setting. A consent condition on this matter is being proposed (Ref. Section 4.15)

The finished appearance of the 1.5m wide concrete footpath on the primary breakwater is described in the LA4 report. It notes that the footpath will be tinted to match the colour of the rocks and a consent condition to this effect is being proposed (Ref. Section 4.15).

The finished appearance of the footpath will be different to that on the Kennedy Point breakwater, which is not tinted.

Reclamation

The proposed landscaping of the reclamation has been described earlier in this report and in the LA4 report. Pohutukawa are to be used as specimen trees to relate to others already in the area and provide some shelter. Low level plantings of pohuehue are proposed due to their coastal characteristics, hardy nature and presence in the area. Consent conditions regarding Council approval of the more detailed landscape plan and its implementation are being proposed (Ref. Section 4.15).

Viewing Deck & Boardwalk

The viewing deck and boardwalk attached to the reclamation will be designed to be in keeping with the existing maritime facilities in the area. Both new structures will have timber decking and either timber or timber and steel balustrades/handrails.

During the investigation and DoC consultation phases of the project consideration was given to a floating walkway structure. However there are construction, maintenance and health/safety difficulties with such a structure.

Floating Office

The floating office will be of a small scale low profile nature. The exterior walls will be finished in recessive colours in keeping with other structures in the area. The visual simulations show the how the appearance of the office building and pontoon will 'fit' into the surrounding marina and surrounding landscape.

The office design shown is of an indicative nature. An architect is expected to be engaged at the detailed design stage.

Consent conditions are being proposed requiring Council approval of detailed landscape plans of reclamation, viewing deck and boardwalk facilities. A consent condition regarding the finished appearance of the floating office is also proposed (Ref. Section 4.15).

3.5 Cultural & Heritage Values

3.5.1 History of the Matiatia Area

The Matiatia Bay area has a history of occupation, settlement and use by Maori and European. Discussions with local Maori indicate the area is considered to be home to people of Ngati Paoa and Ngai Tai descent. Sites of early settlement are reported to exist around the area, some of which are identified on official databases and in books and reports.

The Maori history of the bay is briefly summarised in the Ngati Paoa Cultural & Heritage Impact Assessment prepared in September 2010 for the earlier marina project in **Appendix R**. The western end of the bay was initially reserved for Maori and known as the Te Huruhi Reserve Block. The valley behind the bay contained a lagoon and one of the larger villages on the island. The southern side of the bay contains burial and other significant sites.

The early European history of Matiatia Bay is recorded in "Waiheke Pioneers" (D Day 1989) "Waiheke Island: A History" (P Monin 1992) and Matiatia- Gateway to Waiheke (Monin 2012). Monin (1992) records the first land purchase being in 1844, whilst Day (1989) indicates amongst the earliest owners were boat owners, the Royal NZ Yacht Squadron and the Devonport Steam ferry company.

Day (1989) records one of the earliest buildings in the bay being the woolshed that still stands on the northern shores. It was built in 1914. Livestock were reportedly loaded onto scows in the bay. Day (1989) notes that the first wharf was built in 1923.

Monin (2012) describes the beaching of the MA Doran hulk, a coal carrying vessel, "*in front of today's slipway and the historic woolshed*" in 1914. The hulk was reportedly beached by a local landowner as part of breakwater project and it then become a "*drawcard for excursionists*" before an accident and it was "*burned in 1930*". A chapter of the book is devoted to this matter which, as outlined later, is relevant to the marina project.

Beca (1991) records that the wharf was substantially reconstructed in 1947-48. In 1986 the wharf was further altered to accommodate new passenger ferries, whilst in 1987 a new landing and platform/ticket office area was constructed.

3.5.2 Land & Water Interests

The land in and around Matiatia Bay is largely held in freehold European title, with some significant areas of Crown and Council owned and managed reserves as documented earlier. Investigations to date, along with discussions with local Maori, have not highlighted any Maori land holdings or particular interests in the immediate area of the proposed marina.

Ngati Paoa and Ngai Tai are known to have cultural and spiritual links with the bay and the surrounding land. The nature of this relationship and consultation efforts to date are discussed later in this report.

3.5.3 Time Depth Enterprises Archaeological Assessment

Don Prince, an archaeologist of Time Depth Enterprises (TDE) has carried out an archaeological assessment of the marina and surrounding area.

The TDE assessment work included:

- An examination of early survey plans and maps on the Land Information NZ (LINZ) database,
- A review of published literature relevant to the area was examined for archaeological and/or historical information,
- a search of the Councils Cultural Heritage Inventory (CHI). and the New Zealand Archaeological Association's (NZAA) Site File Record for archaeological sites, and
- field inspections of the marina site and adjacent properties.

Appendix S contains a copy of the assessment report. The key reports findings and recommendations are summarised below.

Recorded Archaeological Sites

The Council and NZAA databases show recorded archaeological and cultural sites. Many parts of the region have not been systematically surveyed so the database is not complete. However they are a valuable resource and indicator of significant areas. The actual sites shown are also indicative only and are recorded to within the nearest 100m.

No archaeological sites are recorded within the area of the proposed marina on either the Council or NZAA database. However three recorded sites are in the vicinity of the landward end of the boardwalk. They are described in detail later in this report.

The TDE report also identifies fifteen NZAA recorded archaeological sites in the Northern Matiatia Bay area. They include several midden, some ditches, pits and terraces, along with a pa on the north western headland. Shell midden are noted in the report as being deposits of predominantly shell, generated by food processing and consumption. The aerial photograph plan in **Figure 68** shows the general location of the recorded sites in relation to the marina. The CHI records many of the same archaeological sites, along with some others of a more general historic nature.

Marina Site Field Inspection

The TDE inspection of the marina site and immediate surrounds in June/July 2010 re-recorded most of the fifteen recorded archaeological sites.

One of the recorded sites not found was on private land some distance from the marina, whilst the other site was considered to be a rerecording or 'double up' of another recorded site. At two of the recorded sites no evidence of archaeological material was found, although this is not surprising given their recorded nature. The two sites in question, which are a midden close to a stream mouth and a urupa/burial, are on land in the vicinity of the marina.

All of the recorded archaeological sites are fully protected under the Historic Places Act. An authority to modify consent is required from the NZ Historic Places Trust if they are to be affected in any way.

The four recorded sites in the vicinity of the marina are two shell midden (R11/191 and R11/1650), an urupa/burial (R11/1143) and a shell midden terrace and koiwi/burial (R 11/1653).

R11/191 is described as a midden and terrace immediately adjacent to the walking track within the historic reserve walkway that is being affected by erosion. **Figure 68** contains an enlarged aerial photograph based plan showing the location of the site in relation to the landward of the proposed boardwalk. The end of the boardwalk will be several metres away from the edge of the recorded site and not affect it.

Figure 69 contains TDE photographs of the site that has been further affected by slippage since the TDE field visit in 2010. The recorded site is primarily within the historic reserve administered by DoC. WML have made an offer to DoC to stabilise the affected area when constructing the nearby boardwalk.

The other shell midden, R11/1650, is recorded as being at the mouth of the southernmost stream in the bay, and is approximately 30 metres to the north of the landward end of the boardwalk. No evidence of the site was found at the time of the TDE field survey. It will not be affected by the proposed boardwalk or other parts of the marina project.

The urupa/burial, R11/1493, was recorded in 1996 at the time of the Matiatia Estate subdivision. It relates to the discovery of the partial head remains of a young male Maori on the beach around this time. The TDE report notes that the exact location of the remains are not known but it believed to be in the vicinity of the bays southernmost stream. The landward end of the boardwalk is well removed from this area.

MA Doran Hulk

The TDE report highlights the Monin (2012) records on the history of the MA Doran, its beaching and burning. **Figure 70** contains a site prepared by TDE showing the approximate location of the hulk, along with an historic photograph.

The TDE report notes the Monin (2012) records are different to those on the Councils CHI inventory and the 2010 TDE investigations that indicated the hulk was in the southern part of the bay well removed from the proposed marina.

The Monin (2012) photographs and text show that the hulk was beached near the current boat slip on the shores of the northern bay. The hulk was reportedly beached around high tide position. As noted in the TDE its remains are not expected to be within the 'footprint' of the proposed pile moorings and marina.

The TDE report also notes that the MA Doran hulk is not an archaeological site under the Historic Places Act (HPA).

The term archaeological site is defined in Section 2 of the HPA as being "*any place in New Zealand that—*

- *(a) either—*
    - *(i) was associated with human activity that occurred before 1900; or*
    - *(ii) is the site of the wreck of any vessel where that wreck occurred before 1900; and*
- *(b) is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand"*

As outlined in the TDE report the MA Doran was beached in 1914 and as such is not an archaeological site.

Other Possible Shipping Remains

The TDE report notes that the Councils CHI does not contain any other records of shipping remains in the bay. It also notes the difficulty of physically determining if there are any such remains, other than by scuba diving or remote sensing equipment.

Possible Discovery of Additional Materials or Sites

The TDE report notes that as with all development projects there is a possibility of other archaeological features/deposits being found in intertidal areas and on parts of the adjacent road reserve and historic reserve during the construction process. It recommends that prior to construction of any reclamation works in the intertidal area an archaeologist inspect it for any pre-1900 human activity. A consent condition on this matter is being proposed (Ref. Section 4.15). The TDE report also makes some recommendations on the protocols to be followed should such material or human remains be discovered in this area or other parts of the site. The protocols identified in the matters to be dealt with through consent conditions (Ref. Section 4.15).

3.5.4 Ngati Paoa Cultural & Heritage Impact Assessment

The 2010 Ngati Paoa assessment initially sets out the historical background to Maori settlement in the Matiatia Bay area. It then highlights key provisions in the RMA and Hauraki Gulf Marine Park Act that are relevant to the project.

The main part of report contains an assessment of several matters, notably archaeological sites, mahinga maataitai, taonga raranga, kaitiakitanga, the Treaty of Waitangi and the former Foreshore & Seabed Act. The report concludes that subject to some qualifications noted therein the project "*would not appear to have any adverse effects on impact on Maori cultural and heritage values at its proposed site or in the immediate vicinity*".

The Ngati Paoa assessment notes the findings of the TDE archaeological report and makes some comments, generally in support of the report findings and recommendations. In terms of maahinga maataitai the assessment notes no known customary fishing or kaimoana in or adjacent to the marina site. Likewise with taonga taranga no known habitats of significant native plants issue for cultural purposes.

The assessment notes that the bay is named after a native grass and there have been recent attempts to re-establish it. It also notes that bronze whaler sharks frequent the bay and the wharf area is a feeding area for stingray and a nesting area for penguin. These matters are addressed in the Poynter ecology report.

The Treaty of Waitangi assessment part of the report discusses sewage pumpout, tide surge and wave patterns, waste disposal and landscape values. No significant concerns are raised. The suggestion that waste disposal facilities be provided in the marina has been incorporated into the marina layout.

3.6 Boat Navigation & Safety

3.6.1 Marina Site Investigations & Report

Captain Jim Varney has carried out a boat navigation and safety assessment of the marina. The assessment work included:

- A review of the draft engineering plans and reports of the project along with naval and other charts of the area;
- A review of the project in terms of the NZ Port & Harbour Marine Safety Code, Auckland Region Risk Assessment, and the Auckland Council Navigation Safety Bylaw;
- A site visit;

- Discussions with staff from the Council Harbourmaster's office; and
- Discussions and /or meetings with the staff of the ferry companies who use the wharf and known commercial users of the boat ramps.

Appendix K contains a copy of the Varney report.

Section 2 of the Varney report records the key components of the NZ Port & Harbour Marine Safety Code (2004) produced by Maritime Safety Authority of NZ that apply to the area. It has been used to undertake the navigation and safety assessment of the marina.

3.6.2 Matiatia Bay Annual Risk Assessment

Section 3 of the Varney report highlights the findings of the Councils Annual Risk Assessments for the Matiatia Bay area. It that the September 2009 risk assessment recorded ten incidents, nine of which involved ferries. A number of different factors were involved in the incidents, including groundings, equipment failures and human errors. There was one recorded incident involving a collision between two recreational vessels.

The report notes that in the September 2010 report there was only one incident being a ferry mechanical failure.

The most recent September 2011 risk assessment recorded a slight increase in risk due to recreational craft collisions and commercial vessel mechanical failures. The mechanical failure involved a ferry starboard engine in November 2011. Although this incident has raised this particular risk rating from 'likely' to frequent' the overall bay rating falls into the 'tolerable' category.

3.6.3 Construction Related Effects

Section 4 of the Varney report discusses the effects of the marina construction on users of the bay, particularly recreational craft accessing the northern mooring area. The report considers this matter requires particular attention because of the expected 20-26 month marina construction period.

The report recommends that the Harbourmaster establish an 'exclusion zone' and special marker buoys be used to restrict recreational craft from north-eastern part of the mooring area. It also recommends that a temporary anchorage area to the west of the marina be established.

3.6.4 Effects on Ferry Operations & Other Wharf Users

The Varney report highlights the key provisions of the Council Navigation Safety Bylaw (2008) that apply to all coastal marine areas, including Matiatia Bay. It also notes the approach channel to the wharves is marked by buoys, within which the ferries have right of way and anchoring is prohibited under the bylaw.

Fullers Ferries Ltd (Fullers) make between fourteen (Sundays & public holidays) to twenty (weekday) return trips a day, whilst Pine Harbour Ferries Ltd (PHFL) also make two return trips (each Friday and Sunday). **Figure 71** contains photographs of a Fullers ferry and the company timetables.

As noted in Section 7 of the Varney report Fullers use the floating berthing facility on the southern side of the new wharf, which is approximately 100m from Pier A in the proposed marina. On occasions, such when wharf repairs are required, Fullers have used the old wharf, which is much closer to the proposed marina.

PHFL use the pontoon on the northern side of new wharf, which is about 90m from Pier A. The Varney report considers that the marina will not give rise to any boat navigation and safety issues in respect of the ferry operations.

Section 7 of the Varney report notes that the number of users of the old wharf and associated fuel pontoon on the northern side is largely unknown. However this is not considered a significant issue as there is adequate separation distance between the wharf/pontoon and the marina, with approximately 40m at the seaward end and approximately 43m at the shore end.

The Varney report also notes with the revised marina design has the entrance further away from the main navigation channel than the earlier design and this will be positive from a navigation and safety perspective. The provision of casual berthage within the marina, rather than along edge of the southern access pier in the earlier marina design, is also supported as it will likewise tend to separate ferry and wharf related traffic from casual recreational traffic.

3.6.5 Effects on Boat Ramp Users

The two ramps adjacent to the wharves are used regularly by the general public and occasionally by commercial operators. The ramp on the southern side of the 'new' wharf is well removed from the proposed marina and not be affected in any way. The ramp on the northern side of the 'old' wharf is close to the proposed marina and as outlined earlier the outer (low water) edge of the reclamation bund wall will effectively adjoin it.

Section 8 of the Varney report documents the consultation undertaken with then two known commercial users of the northern boat ramp. The Waiheke Shipping Co Ltd (WSC) advised in 2010 that they had used the ramp about five times over the previous four years, when the Kennedy Point facility was not able to be used, primarily during south-easterly gale conditions. WSC also advised that they had no particular concerns with the earlier marina as it related to ongoing use of the boat ramp. WSC have since ceased operations and no longer use the ramp. Sea Link advised in 2010 that they had used the ramp about seven times over the previous four years primarily to load trucks transporting roading materials to Rakino Island, although this operation had for several reasons not occurred for the last couple of years.

3.6.6 Existing & Proposed Navigation Aids

Section 9 of the Varney report describes the existing navigation aids in the bay, including the directional (sectored) light on the hill behind the 'old' wharf. During the June 2010 site visit Captain Varney found that there was some white light seepage into the adjacent red and green sectors. The report notes the subsequent July 2012 Notice to Mariners (NZ 116 T) that the light is unreliable.

The Varney report notes that the southern end of the primary breakwater and the viewing platform will fall within the line of the leading light. However it notes that the light is currently aligned with the 'old' wharf rather than the 'new' wharf and recommends this be altered.

The leading light is located within the road reserve as shown on the Axis survey plan in **Figure 6**. WML understand that Auckland Transport, who manage the road reserve, and the Harbourmaster's office, are the appropriate parties to liaise with regarding the recommended alterations to the light. A consent condition relating to this matter is being proposed (Ref. Section 4.15).

The navigation aids proposed for the marina were outlined in Section 2.23 and are generally shown on the IMC marina layout plan in **Figure 12**.

As outlined in the Varney report they will be designed and installed to comply with the Maritime Safety Authority of NZ "Guidelines for Providing Aids to Navigation in New Zealand (2004)". Consent conditions requiring this are expected (Ref Section 4.15).

3.7 Public Access & Recreation

3.7.1 Effects of the Marina on Mooring Holders

The effects of the marina on existing mooring holders, both during construction and in the long term were explained in Sections 2.27 and 2.28 of this report. The construction related effects are also assessed in the Wardale construction report.

Temporary Construction Effects

Construction of the marina is to be carefully planned and managed to minimise the disruption to mooring holders. As outlined earlier the dredging, reclamation and floating marina structures are to be staged to provide all affected mooring holders with a 'temporary' mooring, either on the piles or piers.

The exact temporary mooring arrangements to be entered into with the respective mooring holders during construction cannot be outlined at this point. This will depend on each mooring holders particular needs during the 20-26 month marina construction period and also in the longer term. Some mooring holders may decide to use the construction period to undertake maintenance on their craft or temporarily moor their boat elsewhere in the region.

Long Term Displacement

The long term proposals to deal with affected mooring holders also cannot be determined at this stage as some of them may 'sell' their mooring and/or change their craft. However as outlined earlier all affected mooring holders will be offered the opportunity to take up one of the marina berths or a pile mooring, or one of the vacated swing moorings in the bay.

As shown in **Figure 37** currently 16 of the prospective marina berth holders have moorings on the southern side of the bay and only up to 6 from the northern side want to transfer there. This means that a significant number of moorings in the southern part of bay are likely to come 'free' and be able to allocated to new mooring holders.

The implications of removing and relocating the moorings have been discussed with most of the affected mooring holders and staff from the Council Harbourmaster's office. Consent conditions are being proposed requiring Council approval of a moorings management plan before construction commences (Ref. Section 4.15). The conditions are expected to be modelled on those required for the Orakei and Sandspit marina projects.

Possible Mooring Rationalisation

Following completion of the marina the southern part of the bay is likely to contain approximately 39 swing moorings compared to the approximately 93 moorings at present. The number of swing moorings in the bay as a whole could be reduced if some of the vacated moorings in the southern bay are not reallocated to people on the Council waiting list. The extent of the mooring areas in the bay are being reviewed by the Council as part of the proposed Auckland Unitary Plan that is expected to be publicly notified later this year.

3.7.2 Effects on Dinghy Rack Users

The existing dinghy racks at the entry/exit to the reclamation are to be removed and replaced with alternative facilities. This proposal will affect the current users both during the construction period and on an ongoing basis.

Marina Construction Effects

The Wardale report notes that the existing racks will need to be relocated for a period of time while the reclamation is initially built. Once the 'basic' reclamation is completed (i.e. filled and drained) the dinghy racks are expected to be placed either temporarily back on the reclamation, or the edge of the road or possibly the edge of the DoC reserve (with their agreement) as outlined in the Wardale report, until the floating racks are in place. This means there will be a period of time when the mooring holders will need to use the temporarily relocated dinghy rack facilities.

Signs and other publicity measures are to be used to keep dinghy rack users informed of the construction process and associated temporary storage arrangements. Consent conditions on the these matters are being proposed (Ref. Section 4.15).

Marina Operation Effects

Section 2.12 of this report outlined the nature of the floating dinghy racks being provided for pile mooring holders. They will be conveniently located for users like the current land based racks at the end of Ocean View Rd. As such this group of users will not be adversely affected.

The new pile mooring holders are expected to be provided with security gate swipe cards similar to those provided to marina berth holders, or other arrangements made, so they can access their dinghies and moored craft when the southern access pier gangway is closed. The swipe card or other facility will not enable access pile mooring holders to access the reclamation car park.

The new floating dinghy racks will only be for pile moorings holders in the northern bay. As outlined in Section 2.12 WML intend contacting the swing mooring holders in the southern part of the bay to see how many use the existing dinghy racks at the end of Ocean View Rd and what if any alternative facilities are expected in the future. If it is ascertained from the swing mooring holders that some form of replacement dinghy storage facility in the southern bay area is warranted then WML can relocate some or all of the existing racks to this area. Such a relocation would need to be arranged with the Council and Auckland Transport. It may also require land use consent under the PDP.

3.7.3 Effects on Boat Ramp & Walkway Users

Construction of the marina and associated facilities will result in some temporary 'disruption' to users of the existing boat ramp in terms of removal of the 'undercut', and construction of the reclamation bund wall towards the southern end. Also there may be some temporary 'disruption' to some walkway users as the reclamation/fill area is built and 'married into' the existing road reserve. The 'disruption' to boat ramp and walkway users will be relatively short term and not affect any long term use of the area.

Notices and signs will be used during the construction process to inform boat ramp and walkway users and the general public of the construction works involved, their timing and site management. Consent conditions to this effect are being proposed (Ref. Section 4.15).

All construction work is to be carried out in accordance with official Occupational Safety & Health (OSH) requirements and guidelines. This will involve excluding people from the 'site' for specified periods, especially when the reclamation is being built.

A construction management plan is to be prepared and administered by the project manager. Consent conditions on this and related matters are being proposed (Ref. Section 4.15).

3.7.4 Public Access to the Marina & Other Facilities

The general public will have free access to the southern access pier and primary breakwater during daylight hours as outlined earlier in this report. Potential security problems preclude similar access being made available to the other piers.

The proposed marina will not affect existing public access to and use of the nearby northern boat ramp or other Council facilities in the area, except during a short part of the construction. The proposed reclamation has been specifically designed to avoid interfering with the boat ramp and access to the historic reserve. At present the general public have the right to use the boat ramp on an as required basis and this arrangement is expected to continue. No exclusive occupation rights or controls over the boat ramp area are being sought part of the resource consents.

3.7.5 Proposed Esplanade Reserve on the Reclamation

The Council has powers under Section 108 (1) (g) of the Act to require an esplanade reserve or esplanade strip of any width be set aside on any reclamation. There are also objectives and policies on this matter in the Regional Coastal Plan.

Policy 13.4.5 of the Regional Coastal Plan states that "*where appropriate an esplanade reserve or strip shall be required to be set aside on reclaimed land or drained areas of the coastal marine area, for any of the purposes in Section 229 of the RMA, whilst having regard to the policies of Chapter 7 of this plan. However the setting aside of an esplanade reserve shall not primarily dictate the size of the reclaimed or drained area*".

Method 13.6.1 in the same section of the plan states that "*the ARC will seek to ensure that land of the Crown that is reclaimed or drained remains in public ownership and available for public use*".

The CMA area proposed to be reclaimed is under the control of the Crown. If the proposed reclamation is approved and built then it will be surveyed by WML as required under Section 245 of the Act. Following this WML expects the new reclaimed land to be added to the existing Crown/Council reclamation, the most recent of which does not appear to have of been fully surveyed and/or legalised.

WML are proposing that a variable width esplanade reserve (of 3.15m to 5.90m) related to the outer edge boardwalk and landscaping be set aside.

The proposed esplanade area of approximately 820m^2 is shown in **Figure 32**. It equates to about 32% of the expected 2500m^2 reclamation area (i.e. area of 'dry' land above mhws following reclamation). This 'dry land' reclamation area is less than the total 'footprint' area of 3200m^2 shown on other plans.

A 'full' 20m wide esplanade reserve was considered by WML. However it would not include a small area in the middle of the reclamation as shown in **Figure 32**.

Consideration was also given to provision of an esplanade strip (that WML would be responsible for maintaining) rather than an esplanade reserve. A reserve is considered more appropriate than a strip given the 'fixed' nature of the reclamation and existing reserves in the area.

3.7.6 Effects of Proposed Boardwalk

The proposed boardwalk will provide all tide access to the northern part of Matiatia Bay. Being at the southern end of the beach it will not affect people wanting to take kayaks or other craft on to the beach or detract from people wanting to swim or the like in the area. Some of the surrounding landowners have a right of way easement for livestock and farming vehicles over the reserve, except for between specified hours during weekends (6am Saturday – 6am Monday). **Appendix T** contains a copy of the existing easement.

The boardwalk connection onto the reserve will not affect these easement rights. Farm vehicles and livestock will be able to access around the inland end of the boardwalk structure and past the two pohutukawa and then onto the rocky foreshore to the south if required. The existing access around the rocky area is very difficult. It is not known if livestock and farm vehicles have actually traversed this area and other parts of the easement over recent years.

3.8 Traffic & Parking

3.8.1 Road & Traffic Overview

The T2 Traffic and Parking Assessment Report in **Appendix H** describes the existing road network and traffic conditions in the area.

The key T2 report findings are:

- Ocean View Rd connects the Matiatia ferry terminal and parking areas in the west with Oneroa township to the east;
- Traffic volumes along the road vary. Council records indicate in 2003 a daily two way flow of around 8000 vehicles east of Oneroa township and 4200 vehicles on west of Mako St;
- The nearest road intersection to the western end of the road is at Mako St, approximately 1.3 km east of the marina site;
- The western end of the road adjacent to the marina site contains a parking area for motorcycles and scooters and one for mooring holders and disabled people;
- The last 300m of the road just to the east of the marina site has signage and yellow no stopping lines preventing private roadside parking and reserving it for buses, charter operators and taxis;
- The next inland section of the road provides for roadside parking (around 110 parking spaces);
- There are several Council and private parking areas adjacent to this same section of road;
- Analysis of NZ Transport Agency records between 2007 and 2011 show there were 21 recorded accidents on Ocean View Rd, 1 of which was serious, 7 were of a minor injury nature and 13 involved no injuries;
- No vehicle accidents were recorded along the last 100m of the road closest to the marina site; and
- The road is used by a large number of cyclists and pedestrians, especially close to the ferry terminal. No records of these users are known.

Figures 2 & 24 show the existing road and parking facilities in the area.

Ocean View is identified as a "Primary Road" in the Operative District Plan.

3.8.2 Survey of Ferry Terminal Area Traffic Movements

Section 6.1 of the T2 report contains the findings of 2011 and 2012 traffic surveys of the western end of Ocean View Rd. The surveys were carried out during both weekdays and weekends to identify the current use of this section of road. Signs restrict access to the westernmost end (300m) to buses, taxis, motorcycles, scooters and other 'authorised' vehicles. The eastern part adjacent to the ferry terminal has unrestricted vehicle access.

The survey found on average during the week (8am – 6pm) 390 vehicles used the 'unrestricted' section of road and 130 vehicles used the 'restricted' section. It found the main use periods were half an hour before the early morning and late afternoon ferry sailings with the greatest number in the 15 minutes before sailings. The survey did not record any traffic congestion. The survey findings are illustrated in Appendix A to the T2 report

3.8.3 Existing Parking Facilities & Use

The existing parking areas adjacent to the Matiatia ferry terminal and proposed marina are shown in **Figure 24**. As outlined in Section 2.3 of the T2 report the six 'off road' Council car parking areas (A,B, C,D,E,& H) contain a total of 678 spaces in total. There are approximately 110 public parking spaces along Ocean View Rd (Area G). The private parking area (F) on the northern side of the road contains 70 spaces. In total there are approximately 858 parking spaces adjacent to the terminal.

The Council parking areas are managed by Auckland Transport. Most of it is of a pay and display nature. Area A (also known as the Owhanake carpark), which is the most distant from the ferry terminal, provides for the longest term paid parking of up to 48 hours. Area C provides for up to 24 hour paid parking, whilst Area D has a 30 minute limit, except for the spaces reserved for disabled people. Area B is leased to rental car companies. Area E is generally leased to different users. It contains two free 'reserved' spaces for mooring holders.

Most of the parking along Ocean View Rd is 'free' as are the six spaces (four for mooring holders and two for disabled people) at the northern end of the road adjacent to the proposed marina.

The section of road between Area C and the end (or marina site) contains allocated parking for buses, taxis and other specified users. This allocated parking extends around the cul de sac 'head' as shown in **Figure 24**.

T2 have carried out surveys of Area C being the largest pay and display carpark with 204 spaces immediately east of the ferry terminal. Area C is approximately 200m from the end of Ocean View Rd (the marina site). The survey was undertaken to ascertain current use and its potential availability to marina users.

Area D (38 spaces, excluding disability), which is slightly closer to the terminal and proposed marina was not surveyed because it is of a short stay (<30 min) nature. Area A (150 spaces) was also not surveyed because it is the most distant (at approximately 700m) from the end of Ocean View Rd and the proposed marina.

The Area C parking survey findings are in Section 4.1 of the T2 report.

They showed that during the week all 204 spaces were often fully utilised around midday and the area was often at 70-80% capacity during mid-morning and mid-afternoon. However during the weekend the carpark was generally underutilised.

The November 2009 and June 2010 surveys found at least 89 (44%) available spaces, whilst the November 2011 and January 2012 surveys found at least 110 spaces (54%) available at all times. The findings reflect the heavy weekday commuter focus of the parking area and associated travel patterns.

3.8.4 Marina Parking Demands

There are no parking standards for marinas and moorings in the Operative District Plan or Proposed District Plan. As outlined in Section 4 of the T2 report there are parking standards for these activities in some other district plans. They range from 0.5 space per berth/mooring (Marlborough District) to 1.0 space per berth (Tauranga). The Australian Standard - Guidelines For Design Of Marinas (AS 3962-2001) has a variable parking 'standard of 0.3 space to 0.6 space for wet berths.

The number of parking spaces proposed for the Matiatia marina is based on the following considerations;

- The type of craft expected in the marina and associated parking demands;
- A significant number of berth holders already having moorings in the area and there being limited 'new' parking demands.
- The T2 survey of the main Council car parking area that shows significant underutilisation during the weekend when marina parking will be greatest;
- A parking survey at the Whitianga marina that show also significant underutilisation during the week, 'normal' and 'peak' use weekends;
- The comprehensive bus, taxi, and ferry services that serve the site and its pedestrian linkages*;*
- A review of overseas guidelines and research publications on marina related parking that indicate New Zealand parking standards are high;
- District Plan and other RMA based provisions that encourage the use of alternatives to parking such as public transport and travel demand management; and
- The Regional Coastal Plan and other RMA based provisions that require reclamations be kept as small as possible.

The results of the Council parking area survey were outlined earlier and are explained in more detail in the T2 report. The RMA, regional coastal plan and district plan provisions relating to reclamations and alternative transport modes are explained in more detail in Section 4 of this report.

Craft Type

A large proportion of the berths (67%) are for relatively small craft, i.e. 14 m or less. A significant number of the craft are expected to be yachts and only accommodate 2-4 people.

Whitianga Marina Parking Survey

T2 undertook a parking utilisation survey of parking at Whitianga marina in November 2011 and January 2012. This marina has around 190 berths and is located in a small town subject to similar summer holiday use as expected at Matiatia.

The survey findings are in Section 4.3 of the T2 report. They note that during the week the peak number of parking spaces being used varied from 0.13-0.35 spaces/berth, the 'normal' weekend use varied from 0.14-0.30 spaces per berth and the 'peak holiday' weekend (Auckland Anniversary) use was 0.22-0.41 spaces per berth. The peak weekday occurred at 5pm on a Tuesday and coincided with a fine day after several weeks of poor weather. The peak weekend use was around midday on both Saturday and Sunday.

The T2 report notes that the Whitianga marina parking area also serves a commercial boatyard, is available in part to the general public and has no time parking limit restrictions. It also notes that the parking survey was carried out during a week when the boatyard was reported to be at capacity. As such the Whitianga marina survey results are of a 'high end' or 'conservative' nature and a lower parking demand is expected at Matiatia.

Overseas Marina Parking Guidelines & Studies

A review of overseas parking guidelines and studies found the following:

- The 'variable' Australian parking guideline (AS 3962- 2001) of 0.3–0.6 spaces per wet berth is accompanied by a note that states "*For commercial facilities the lower number of parking spaces should be considered. For racing clubs, the larger number should be considered".* No *'*racing club' is proposed at the Matiatia marina which will reduce parking demand.
- The USA Institute of Traffic Engineers (ITE) parking guideline for marinas is 0.59 spaces per berth. The ITE guideline is based on studies that show this level is required only on peak days (Sunday) and there are lower utilisation rates during the week (0.27 spaces) and Saturdays (0.35 spaces).
- The Mauritius Ministry of Housing & Land guideline for marina parking is 0.5 spaces per berth.
- Reports indicate that in Europe marinas are normally built on the basis of providing not more than 0.5 car spaces per let berth.

Matiatia Ferry, Bus & Taxi Services

The marina site is very well served by ferry, bus and taxi services.

Each day there are each day 14-20 ferry services to the area. They are expected to be used by people from Auckland who are sailing on craft or visiting the marina for other purposes.

People from Waiheke who are sailing or boating with berth holders are likely to use bus and taxis services rather than drive to the marina or the Council parking areas.

The ferry terminal is served by five bus routes, typically on an hourly basis. There are several bus parking areas and there is also a taxi stand next to the terminal.

3.8.5 Parking Provision & Effects

Marina Users

One of the parking spaces in the marina car park is to be allocated to the coastguard and another to the marina manager. The remaining 53 parking spaces will be available to the 160 berth holders and their visitors. The 53 spaces equate to a parking standard of 0.32 spaces per berth/mooring.

The proposed parking provision is between the peak weekday provision of 0.35 spaces/ berth and the slightly lower peak (normal) weekend provision of 0.30 spaces/berth found in the T2 Whitianga marina survey. As outlined in the T2 report the weekday average occupancy at Whitianga marina was found to be 0.1-0.24 spaces/berth and the normal weekend average was 0.10–0.22 spaces/berth.

The proposed provision is also above the USA ITE survey of 0.27 spaces/berth weekday utilisation and the minimum 0.3 spaces/wet berth in the Australian marina guideline.

Pile Mooring Holders

The pile mooring holders are expected to use the existing 'reserved' parking areas at the end of Ocean View Rd and other Council parking areas further to the south as they do now. The marina will effectively reduce the number of moorings in the bay from the current 93 (54 in north & 39 in south) to approximately 56 (17 & 39). The approximate 40% reduction in moorings will reduce the demands on the existing 'reserved' and general public parking areas accordingly.

Parking Area Access & Layout

Section 5.4 of the T2 report notes the proposed reclamation access and parking layout complies with the relevant standards for 'regular users' in the two district plans. The parking spaces are all oriented at 90^0 to the manoeuvring aisle, are at least 2.5m wide and have 7m of manoeuvring depth. Four of the spaces have a depth of 3.9m with 1.0m of 'overhang', compared to the usual 4.9m depth. They are identified in **Figure 70**.

Two spaces are to be marked for disabled users as shown in **Figure 70.**

Management of Short Medium & Long Term Parking Demands

A marina parking area management plan administered by marina manager is proposed to ensure effective use is made of the parking area. A key component of the plan will be restrictions on the time berth holders and their visitors can park on the site.

Section 5.4 of the T2 report explains the proposed initial allocation and use of the parking spaces, which are;

- 2 reserved spaces for the coastguard and marina manager;
- 10 'short term' (up 4hr) spaces closest to the marina gangway for 'drop off', minor maintenance and other similar activities;
- 36 'medium' term (up to 12 hours) spaces for day sailings and the like; and
- 7 'long' term (up to 48 hour) spaces for 'overnight' trips.

The proposed initial allocation of parking spaces is illustrated in **Figure 71**. The allocation is of an indicative nature only. Use of the different spaces is to be monitored by the marina manager and some 'refinement' or even significant change is possible during the first year or so of marina operations.

Weekend Use of Council Parking Areas

The number of proposed parking spaces is considered sufficient for weekday and most weekend demands taking into account the available bus, ferry and taxis services to the area and non-club nature of the marina. During 'peak' use weekends it is proposed that the two main Council parking areas (Areas A & C) be utilised.

The T2 survey of Area C alone showed on the various days that at least 44-54% of the 204 parking spaces were vacant, i.e. it was never more than 46% full. Observations indicate that Area A, which is much further from the ferry terminal, is even less utilised in the weekend.

The extent to which the Council parking areas are expected to be utilised during the weekends (and public holidays) can be reasonably predicted from the Whitianga marina survey and other studies. The T2 report predicts that during 'normal' weekends there should be little if any use of Council parking areas, but during 'peak' holiday weekends up to 10 spaces could be required.

The Council car parks have been designed to cater for the ongoing future development needs of the island, including possible additional or extended land use activities in and adjacent to the ferry terminal. The parking area surveys and assessment indicate there is significant weekend and public holiday capacity and use by some marina berth holders and visitors is unlikely to compromise the long term planning and development of the area.

The respective 48 hour and 24 hour restrictions on parking in Areas A and C may inconvenience some marina users who want to go boating for longer periods. They will have to arrange private or public transport to the site or possibly arrange casual parking in one of the 'private' parking areas. If there is significant marina user demand for more than 48 hour parking then the users or the Trust can approach Auckland Transport to see if some spaces in one of areas could be extended to say 72 hours during 'long' weekend and holiday periods.

3.8.6 Vehicle & Pedestrian Access to the Marina

Access to the marina will be via Ocean View Rd, the westernmost end of which is to be slightly modified to provide safe and convenient vehicle access to the proposed reclamation parking area, along with the existing boat ramp and altered roadside parking for mooring holders.

The traffic engineering basis of the slightly redesigned cul de sac head and roadside parking is outlined in the T2 report. The report describes the proposed vehicle manoeuvring and parking facilities to be provided within the road reserve, compared to those at present. It also outlines how the entrance and exit to the reclamation parking area have been designed to not affect vehicle access to and from the boat ramp.

The T2 report notes that the proposed entrance to the reclamation parking area will have approximately 75m of visibility assuming a travel speed of 20km/hr. and it is in accordance with the recognised Austroads guidelines. As noted earlier the entrance and exit to the parking area are to be controlled by barrier arms or similar devices.

The T2 report also describes how pedestrian access to and from the reclamation is to be integrated with the existing facilities in the area.

3.8.7 Traffic Generation and Effects of Marina Operation

<u>Predicted Traffic Generation</u>

Section 6 of the T2 report contains estimates of the amount of traffic expected to be generated by the marina based on the expected daily 'turnover' of parking spaces. The key findings of the report are;

- During a 'typical' weekday 170 additional vehicle movements in and out of Ocean View Rd are expected.

- During a 'typical' weekend day around 180 additional vehicle movements and on 'peak' weekend day up to 280 vehicle movements are expected.

The typical daily volume represents a 6.5% increase in current weekday traffic and the weekend day volume equates to a 11% increase.

The T2 report predicts peak traffic volumes to vary from 34/hour during the week to 56/hour during the weekend. It finds that the increase in traffic can be readily accommodated and will have no adverse effects on the traffic safety and efficiency of Ocean View Rd.

Effects on Existing Parking on and Adjacent to Ocean View Rd

The entrance/exit to the marina will be located at the end of Ocean View Rd, where the dinghy racks are located as shown in the aerial photograph based plan in **Figure 21**.

The effects of the proposed entrance exit on the dinghy racks and alternative facilities are addressed in Section 3.7- Public Access & Recreation, of this report. This same section of the report outlines how the entrance/exit has been designed to not affect public pedestrian access to the historic reserve and the existing four wheel drive access rights held by some of the landowners in the northern bay.

Section 8 of the T2 report explains the traffic engineering design basis of the entrance/exit and its effects on the adjacent parking for buses, charter operators, taxis, disabled people and mooring holders. The entrance/exit is expected to be approximately 7.5m wide and will encroach slightly onto the existing mobility impaired/taxi/charter operator parking on the seaward (western) side and the bus parking on the inland (eastern) side of the cul de sac head. However as outlined in the T2 report the encroachments are small (both approximately 2m) and the majority of the current parking space will be unaffected. As outlined in the T2 the bus parking space will still be about 47m long and accommodate three buses. The 12m long charter and other user's parking space will still be able to accommodate two vehicles.

Section 8 of the T2 report also notes that the off road disabled mooring holder parking spaces just to the north of the cul de sac will not be adversely unaffected. They will continue to be able to use their two reserved spaces. The entrance/exit design also will not affect access to and use of the adjacent motorbike parking area and boat ramp as outlined in the T2 report.

Heavy Vehicles & Loading

Sections 7 and 9.1 of the T2 report outline the expected number and type of heavy vehicles expected to visit the marina. They are primarily a truck emptying the wastewater storage tank and emergency vehicles (notably fire appliances). Wastewater tanker visits are to be arranged outside of 'peak' weekday hours and have no adverse effects on road users.

No dedicated loading space is to be provided on the reclamation. The T2 report considers it is not warranted. It recommends use of some of the 10 'short term' parking spaces for any loading that is required. The wastewater holding tank is located within the 'short term' area and tank emptying is expected to involve the temporary 'coning' off of a few parking spaces for a short period of time. Consent conditions related to these informal loading arrangements are being proposed (Ref. Section 4.15).

The T2 report notes that the parking area layout has been designed to accommodate a 99 percentile 8m truck (fire appliance) without having to reverse manoeuvre.

3.8.8 Effects of Marina Construction

Total Truck Trips

Section 10 of the T2 report notes that the breakwaters and most of the reclamation is to be constructed from rock and other materials barged to the site with approximately 128 heavy truck trips required to deliver the reclamation 'finishing' material (pavement/topsoil landscaping). Another approximately 123 heavy truck trips are required to deliver the marina boardwalk piles and mooring piles to the site. This makes a total of approximately 250 trip over the expected 20 -26 month construction life of the project.

Kennedy Point–Matiatia Route

Section 11.2 of the T2 report notes that most of the trucked in construction materials will be come from the Kennedy Point ferry landing. **Figure 71** shows the 6.7km truck route between the two ferry landing areas. The report includes an assessment of the accident data records for the road over the 2007-2011 period. It notes that there were 47 reported accidents, 17 of which resulted in injuries, 1 of which was serious. The T2 report considers the road has a relatively low accident record and no traffic safety issues are expected to arise from the marina related construction traffic.

Management of Truck Trips

Section 11.3 of the T2 report notes the moderate levels of traffic associated with the Matiatia ferry terminal around the scheduled ferry sailings and the potential for construction traffic to impact on it. It recommends that deliveries be managed in the following manner:

- No deliveries during weekdays before 8.00am or after 4.00pm ('peak' use periods) when most commuters arrive or depart and Ocean View Rd and the other connector roads are the busiest; and
- During the 8.00am and 4.00pm ('off peak' use) period no deliveries will be made for a period of approximately 20 minutes around ferry arrivals (generally 20 minutes before the hour) and ferry departures (on the hour) meaning that deliveries will generally be confined to the first 40 minutes of each hour.

The T2 report contains a diagram illustrating how the truck management system is expected to operate around the current scheduled ferry sailings.

The T2 report notes during each 40 minute period up to six trucks should be able to access the marina site (based on 'normal' turnarounds) with no more than one truck on the last section of Ocean View Rd around the ferry terminal at any one time. As such there are expected to be no adverse effects on safety and efficiency of this section of the road and at the same time little impact on the overall construction programme.

The two T2 recommendations on truck deliveries to the marina site have been incorporated, along with other more general day to day management proposals, into a draft Construction Management Plan (CMP). This plan is appended to the T2 report. Consent conditions are being proposed regarding Council approval of a final CMP, which will have input from the chosen contractor, including key personnel details and plan monitoring procedures. Section 11.4 of the report assesses the effects of the construction traffic on Ocean View Rd and the wider road network during the four stages of the project identified in the Wardale construction report. The level of traffic in each stage is considered to have either minimal or negligible impact at the different stages.

Construction Worker Parking

Section 11.5 of the T2 report notes the relatively small amount of construction worker parking expected with the project. As outlined some workers are expected to come by ferry and others transported to the site in mini vans or the like. Also once the reclamation is filled some parking is expected to be available in this area.

The report notes the potential for construction workers to access the Council parking areas nearest to the ferry terminal and effectively displace commuters. It suggests that workers be encouraged to use the Area A parking area that is the most distant from the ferry terminal. This is to ensure that construction worker parking has the possible impact on parking by regular ferry users in Areas C and H closest to the terminal. This matter is to be dealt with in the CMP. As noted above the any use of Area C will only be for a short period. Once the reclamation is filled and consolidated all construction vehicles are expected to be parked on it.

3.8.9 Construction Traffic Management Plan

Section 11.6 of the T2 report explains the key components of the draft CMP. They are:

- Construction Project & Traffic Management Personnel
- Liaison with Auckland Transport, Fullers & Other Terminal Users
- Liaison with Mooring Holders
- General Publicity Measures
- Timing of Truck Deliveries
- Loading Areas & Unloading of Materials
- Site Management & Signage
- Pedestrian & Vehicle Safety Measures
- Wheel Wash Facilities
- Construction Worker Parking

Consent conditions relating to submission of a more detailed final CMP to the Council for approval and related implementation are being proposed (Ref. Section 4.15).

3.9 Noise & Vibration

3.9.1 Noise & Vibration Assessment

The marina will be adjacent to a busy ferry terminal area which generates significant noise. However the northern parts off the marina will be reasonably close to a number of rural-residential properties, including a couple that are used for visitor accommodation. The potential noise effects of the marina on residents and visitors to these properties is important.

Styles Group - Acoustic & Vibration Consultants (Styles) have undertaken a noise and vibration assessment of the marina project, including both its construction and operation. The completed report is in **Appendix U**.

In July 2010 as part of the assessment ambient or 'background' noise levels were recorded on one of the adjacent properties overlooking the marina. **Figure 75** shows the location of the property from which the noise recordings were taken.

The Styles noise recordings found the following:

- The movement of ferries, vehicles and people in and around the wharves are the dominant noise sources. Most of the noise is associated with the ferries that during the week operate from Matiatia wharf from 0605 to 2430 (up to 20 return trips per day).
- The ferries themselves typically generate noise levels of L_{Aeq} of 50-55dBA and L_{max} of 65dBA when docking. The L_{Aeq} is noted in the report as being "the continuous steady noise level that would have the same A weighted acoustic energy as fluctuating noise over the same period", whilst the L_{max} is defined as "the highest (maximum rms) sound level for a defined measurement period".
- The logarithmically averaged L_{A10} and L_{Aeq} noise levels during the day (0700-2200) were 48dB and 46dB respectively and during the night (2200-0700) the arithmetically averaged background L_{A95} was 28dBA,

3.9.2 Regional & District Plan Rules on Noise & Vibration

The Regional Coastal Plan (RCP) and the Proposed District Plan (PDP) contain rules on noise emissions and vibration that are relevant to the project. As the marina is almost entirely within the coastal marine area the RCP rules are the most relevant.

The PDP rules on noise and vibration only apply to the very landward ends of the southern access pier gangway and boardwalk and the small fill area on the road reserve. They also apply to any temporary construction related activities on the road reserve. The rules in the Operative District Plan (ODP) are not relevant as there no outstanding appeals against the PDP rules and they have full effect.

Rules on Noise

Section 35.5 of the RCP has rules on noise emissions in the coastal marine area. Under Rule 35.5.5 all construction noise is required to comply with N.Z.S. 6803P 1984. This standard has been replaced by N.ZS. 6803:1999, and it is this standard that has been used in the Styles report.

The Styles report notes that the two versions of the standard are very similar in terms of the construction noise levels permitted. Rule 35.5.1 of the RCP requires noise levels from all activities in the coastal marine area (with some specified exceptions) at the boundary of the any adjacent properties that under the PDP can be used for residential purposes to not exceed the following limits (except where otherwise provided for by specific rules):

- L_{10} of 55dBA between 7.00am and 10.00pm
- L_{10} of 45dBA between 10.00pm and 7.00am
- L_{max} of 75dBA between 10.00pm and 7.00am

The Styles noise assessment report uses the ambient noise recordings and predictions of noise levels from particular construction activities to show that the RCP rule on construction noise (effectively NZS 6803: 1999) is expected to be met. The report also makes predictions on noise emissions from the operating marina to demonstrate how the RCP rule on operating noise from the marina will be met.

Section 3 of the Styles report notes that the district plan rules are based on the traditional L_{max} and L_{10} descriptors and with reference to dBA levels. The Styles report uses the current ISO nomenclature which is L_{Amax}, L_{Aeq} , and L_{A10} and dB levels.

Rules on Vibration

The RCP has no rules on vibration as outlined in Section 3 of the Styles report. This same section identifies the relevant PDP rule (Rule 4.6.3.1). It effectively requires activities such as piling to comply with the recognised German standard being DIN4150-3 - 1999-02 – Structural Vibration – Effects of Vibration on Structures.

3.9.3 Noise Effects of Marina Construction

Section 6.1 of the Styles report notes that the exact nature of the construction equipment to be used in the project is not clearly known. However based on similar projects reasonably accurate predictions of the noise levels at nearby dwellings can be made. A prediction of construction noise on the 'main' wharf containing the ferry terminal is made on the same basis.

The Styles report contains predicted construction noise levels at five dwellings around the northern fringes of the bay, along with a sixth site on the main wharf area. The dwellings concerned are shown in **Figure 72**. They are No.1 – V Sanders, No.2 - B Ross, No.3 - P & P Briggs, No.4 – M & C Hutchens and No.5 – F Aandewiel & L King.

Dwelling No. 5 (Aandewiel & King) is the closest to the existing ferry terminal and old wharf/fuel pontoon, being approximately 80m to the northeast. With the marina in place it will (at approximately 60m) be closest to the proposed reclamation car parking area. Dwelling No. 3 (Briggs) is closest to the beach and the innermost swing moorings in the bay (at approximately 150m).

The Briggs dwelling will be approximately 120m from the closest (inner) Pier A berths in the marina. Dwelling No.2 (Ross) will be approximately 130m from the innermost berths on Pier A. Dwelling 1 is further to the west (seaward) of Dwelling 2, whilst Dwelling 4 is further to the east (inland) of Dwelling 3.

Table 2 (page 17) of the Styles report contains predicted noise levels at the five dwellings and one wharf site from eight different noise generating activities including an excavator dredging, moving rock, or working on land, different pile driving activities and a mobile crane working on the reclamation. It also makes an overall noise prediction if all noise sources are operating together.

The L_{Aeq} noise levels from the mobile crane, which are the 'quietest', are predicted to range from 38dB–57dB, whilst the 'noisiest' concrete pile driving activities are expected to be in the 56-71dB range. The overall noise level is predicted to range from 61dB-74dB.

The highest levels are predicted at the wharf, being generally 2-3dB above the highest predicted level at a dwelling. The report notes that that predicted construction noise levels at the five dwellings and the wharf will comply with the 'long term' duration noise limits set in NZS 6803: 1999. The 'long term' duration part of NZS 6803 has been used in the Styles report and is expected to apply to the project. This is because the marina project will exceed 20 weeks, which is the period upon that the long duration part of the standard is based. Under NZS 6803 a different (less stringent) set of construction noise levels apply to 'short term' projects.

The Styles report notes that the prediction of L_{Amax} noise levels arising from construction is difficult and the levels are highly dependent on the particular model of plant and construction methods being used. L_{Amax} noise levels are typically 7 – 12dB higher than the L_{Aeq} noise limits. On this basis, the predicted L_{Amax} noise levels will comply with the relevant noise limits prescribed in NZS6803:1999.

Table 5: N.Z. Standard 6803 –1999 - Recommended Upper Limits for Levels of Construction Work Noise Received in Dwellings in Rural Areas

Time Period	Noise Level (dBA)								
	Weekdays			Saturdays			Sundays and Public Holidays		
	L_{10}	L_{eq}	L_{max}	L_{10}	L_{eq}	L_{max}	L_{10}	L_{eq}	L_{max}
0630-0730		55	75		45	75		45	75
0730-1800		70	85		70	85		55	85
1800-2000		65	80		45	75		45	75
2000-0630		45	75		45	75		45	75

The predicted noise levels fall well within the weekday and Saturday 'daytime' (0730 – 1800) L_{Amax} limit of 85dB and L_{Aeq} limit of 70dB and recommended for dwellings in rural areas N.Z.S.6803 -1999. The NZS:6803 noise limits are set out in the following table.

The NZS 6803 noise levels outlined above are those recommended for 'residential zones and dwellings in rural areas'. They are more stringent than those set for 'commercial areas'. As outlined in the Styles report, although the ferry terminal and some of the adjacent land is of a commercial nature there are several residential dwellings nearby and it more appropriate to use the more stringent standards.

Section 6.1 of the Styles report notes the potential for the NZS 6803 noise limits to be exceeded during the early morning (6.30am - 7.30am) period at Dwelling 5 (F Aandewiel & L King) and the main wharf site (No.6) if construction noise is not correctly managed. The overall predicted L_{max} at these two sites is predicted to be only 1-2dB below the 75dB L_{max} at this time. A Construction Noise Management Plan, which has a monitoring component, is recommended accordingly. A consent conditions on this matter is being proposed (Ref Section 4.15).

3.9.4 Vibration Effects of Marina Construction

Section 6.2 of the Styles report notes that nearest dwellings are too far away to be affected by vibration from the piling activities. No such effects are also expected on the nearby wharves, including the 'old' timber wharf. The Styles report notes that the piling activities would comply with the DIN standard in the PDP if it applied to the water area.

3.9.5 Noise Effects of Marina Operations

The noise produced from the additional boat and vehicle related activities is not expected to be significantly different to that at present. There will be considerably more craft and some of them will be closer to some of the dwellings. No 'new' noise sources will be introduced.

Section 5 of the Styles report assesses the likely impacts of noise from the three potential noise sources, these being:

- people using the reclamation car park, then boarding and loading craft in the marina,
- motorised craft leaving and entering the marina
- boat halyards and rigging on windy days

In addition Sections 5, 7 and 8 of Styles report generally consider the potential noise from other sources, including people staying on berthed craft and wind powered electricity generators. Some associated recommendations are made.

The Styles noise assessment was made within the context of the applicable RCP rule mentioned earlier that sets a night time (10.00pm - 7.00am) L_{A10} limit of 45dB and a daytime (7.00am -10.00pm) L_{A10} limit of 55dB, along with a night time L_{Amax} of 75dB. The key Styles report findings, along with other relevant information, follow.

Noise from the Reclamation Carpark, Boarding & Loading Craft

Section 5.1 of the Styles report recognises that noise from vehicles using the reclamation is likely to be the most significant. However it considers that this noise is unlikely to affect ambient noise levels or be audible at the nearest dwellings (No. 3 - Briggs & No. 5 – Aandewiel & King).

The report also notes that ambient noise includes that generated from the nearby ferry terminal and roadside parking areas. The noise from the carpark is expected to be most audible in the early morning and late evening, when the lower 'night time' L_{A10} limits apply and the ambient noise levels are lowest. However as outlined earlier people using the early morning and late evening ferries are also in this same general area, creating a similar level of noise. Some berth holders are expected to access the carpark outside of ferry operating hours. As outlined earlier the reclamation carpark area will have barrier arms and not be available to the general public. This should prevent any noise from antisocial behaviour or the like.

The noise from people boarding and loading on boats berthed in the marina is expected to be of a similar higher L_{A10} range, although this depends on the activities undertaken. People with craft on the outer or northernmost berths closest to the dwellings who are making a long trip (over several days or weeks) may decide to load from the old wharf, where there is a fuel supply. However for short overnight or other trips loading and unloading is expected to take place in the berths, and this will involve trolleys and other potentially 'noisy' activities.

As outlined earlier Dwelling No.3 (Briggs) will be closest (at approximately 130m) to the northernmost berths on Pier A whilst Dwelling No.5 (Aandewiel & King) will be closest (also at approximately 130m) to the berths at the southern end of the same pier. Dwelling No.2 (Ross) will be closest (at approximately 200m) to the northernmost berths on Piers C and D. Dwelling No.1 (Sanders) will be further away (at 240-250m) from the Pier C and D berths.

The Styles report notes that the use of concrete for the walkway structures will compared to wood and other surfaces limit the noise from trolleys and the like. It also notes trolleys are generally fitted with inflatable rubber tyres to further lessen the noise effects. This matter is to be dealt with through a consent condition and the marina bylaws/rules (Ref Section 4.15).

The Styles report also notes the potential for the security gates to be a potential source of clanging noise from metal upon metal contact. It recommends that the gates be fitted with soft door closers to prevent this. A consent condition to this effect is being proposed (Ref. Section 4.15)

Noise from Motorised Craft

Section 5.2 of the Styles report recognises that noise from motorised craft entering and leaving the marina is likely to be the most significant. It contains information on recorded noise levels from craft using the Pine Harbour marina in October 2012. The 'typical' noise level was found to be L_{A10} 59dB.

The report uses this information and other data to predict the noise from motorised craft at the nearest five dwellings and at the main wharf. On the basis of a 'worst case' scenario of a craft running with an idling engine for 15 minutes and then moving away at around the speed limit of 5 knots L_{A10} levels of 38dB-43dB both during the daytime and night time are predicted. The report finds that the noise from the activity will be significantly quieter than that from the ferries, buses/cars and people on the wharves. It considers that noise from craft in the marina will be occasionally audible at Dwellings 1-4 but not of such a nature to be intrusive.

Noise from Boat Halyards & Other Equipment

Section 5.3 of the Styles report notes that noise from rigging and some mast types has been an issue at some marinas, although at high wind speeds it is generally 'masked' by the wind itself, including its effect on buildings and trees. The marina rules will contain provisions that require yacht owners at all times to secure halyards and other equipment. They are expected to be modelled on Clause 8.1 of the Orakei marina rules in **Appendix M**.

The Styles report also recommends the rules prohibit the use of wind powered electricity generators on all berthed craft. This recommendation is also expected to be incorporated into the Matiatia marina rules.

Noise from People on Berthed Craft

Section 5 of the Styles report notes that the noise from people on craft, including live-aboards, will be managed through the marina rules and on site manager. Section 7 notes that implementation of the rules is likely to mean there is greater control over noise from berthed craft than currently from moored craft in the bay.

As outlined above and earlier in Section 2.30 of this report a comprehensive set of rules for the Matiatia marina is to be developed based on those in place at other marinas, including Orakei and Westhaven. The marina rules will cover noise and they are expected to manage live-aboard and other potential noise generating activities.

3.9.6 Monitoring of Construction Noise Effects

The noise effects of the marina construction are to be monitored and the results provided to the Council as outlined in Section 8 (Condition 2f) of the Styles report. The proposed monitoring is expected to be similar to that required by way of the resource consent conditions for the Orakei and Sandspit marinas. A consent condition on this matter is being proposed (Ref. Section 4.15).

3.10 Lighting

3.10.1 Lighting Design & Assessment Report

The Light Group Ltd report in **Appendix I** outlines the proposed lighting facilities for the marina. It assesses the proposed lighting against the relevant PDP rules. The principal PDP rules are not subject to appeal and as such the report does not refer to the ODP.

The report also assesses the lighting within the marina itself against the PDP rules as the RCP has no rules on lighting. This has been done simply for consistency purposes.

3.10.2 Effects of Reclamation Lighting

The reclamation will once the survey plan has been approved and associated legal formalities are completed, become part of the district. The rules on lighting in the PDP are therefore applicable to this part of the project.

Rule 4.10.3 of the PDP provides for artificial lighting with luminance of up to 150 lux as a permitted activity. The lighting on the proposed reclamation will be designed to readily comply with this standard as outlined in the Lighting Group Ltd (LGL) report.

The LGL report notes that the maximum light level expected from the LED 'floodlights' is 29.3lux on the horizontal plane and 21.9 lux on the vertical plane. It notes that floodlights will have no upward tilt and no sky glow. The lux level average throughout the carpark of around 14.7 lux is expected to provide security and safety and ensure glare and light spill are kept to a minimum.

3.10.3 Effects of Marina Lighting

The Lighting Group Ltd report assessment of the marina pier and walkway lighting shows that it will comply with the PDP rules.

The highest light from the modules is expected to be around 19 lux. As with the reclamation area lighting the average lux level is expected to be of a standard that will provide security and safety and ensure glare and light spill are kept to a minimum.

4 RESOURCE CONSENT ASSESSMENT

4.1 Resource Management Act

4.1.1 General Overview

The Resource Management Act (the Act hereafter) is the principal statute governing the use and management of air, land, water and related natural and physical resources. Under the Act the Council, in conjunction with the Minister of Conservation, is responsible for management of the coastal marine area (CMA), i.e. the foreshore, seabed and waters from mean high water springs mark out to the 12 mile nautical limit of the territorial seas.

The Council's management of the CMA, including the marina site, is primarily carried out through the Operative Regional Coastal Plan (RCP). There have been some proposed changes to the RCP but none impinge on the marina project.

The control of land use activities on dry land above mean high water springs is carried out through the 1996 Operative District Plan (ODP) and the 2006 Proposed District Plan (PDP). Both plan provisions have to be considered as there are outstanding appeals against the PDP.

The Council also has control over some land use activities in so far as their effects of soil conservation and water quality are concerned. These are administered primarily through the operative Regional Plan: Sediment Control Plan (SCP), the partly operative Regional Plan: Air Land & Water (ALWP) and Variation No. 1, which have rules on earthworks and stormwater discharges.

4.1.2 Section 104 Provisions

Section 104 of the Act prescribes the basis upon which all resource consent applications are to be considered by consent authorities. Foremost amongst these matters are the Act's purpose and principles in Part 2. Under Section 104(1) all applications are 'subject to' these provisions which include:-

- Section 5 - Purpose
- Section 6 - Matters of National Importance
- Section 7 - Other Matters
- Section 8 - Treaty of Waitangi

The provisions in Part 2 of the Act which are particularly relevant to the proposed marina and related works are discussed in the following subsection.

Section 104(1) of the Act also requires consent authorities to 'have regard' to certain matters when considering resource consent applications. Nine matters are specified, five of which are of particular relevance to the subject applications. These are:-

- the provisions in the NZ Coastal Policy Statement and Regional Policy Statement
- the provisions in the Regional Coastal Plan and other Regional Plans
- the provisions in the District Plans
- the environmental effects of the activities
- any other matter considered relevant and reasonably necessary to determine the application.

The environmental effects of the proposed marina and some of the related district plan and regional plan rules were discussed in earlier sections of this report. The rules, along with key plan objectives and policies, are assessed in more detail in this part of the report. This part of the report also covers some 'other matters' that are considered relevant. These include some a number of 'informal' (non RMA based) plans, including some developed for the Matiatia area.

Section 104(3) also requires consent authorities considering discharge permits and coastal permits to have regard to two further matters, namely:-

> *"(a) The nature of the discharge and the sensitivity of the proposed receiving environment to adverse effects and the applicant's reasons for making the proposed choice; and*
>
> *(b) Any possible alternative methods of discharge, including discharge into any other receiving environment."*

Sections 104(4) and 104(5) also requires consent authorities considering coastal permits to have regard to any relevant policy in the NZCPS relating to the Crown's land interests in the coastal marine area and the appropriateness of having an esplanade reserve or strip on any proposed reclamation. As outlined earlier the Crown has particular land interests in the immediate area of the site and a reclamation, including an esplanade reserve, is proposed.

4.1.3 Part 2 Considerations

The purpose of the Act is to promote the sustainable management of natural and physical resources. Section 6 lists seven matters of national importance to be recognised and provided for in relation to the Act's purpose.

Six of the seven matters listed are relevant to the project, these being:-

> (a) *The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development;*
> *(c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;*
> *(d) The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers;*
> *(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga;*
> *(f) The protection of historic heritage from inappropriate subdivision, use and development;*
> *(g) The protection of recognised customary practices.*

Clause (b) relating to the protection of 'outstanding natural features and landscapes from inappropriate subdivision use and development' is not considered relevant. The marina is not within any 'outstanding natural features and landscapes'.

Clause (c) is relevant as outlined in Section 7 of the Poynter ecology report. Although no 'significant' indigenous vegetation is affected by the project, the sub-tidal areas affected by the breakwaters, dredging and reclamation contain significant biota by virtue of diversity and abundance.

Section 7 lists eleven further matters which applicants and consent authorities are to have regard to.

Most of the matters listed in Section 7 are relevant to the marina and related works. They are:-

(a) *Kaitiakitanga;*
(aa) the ethic of stewardship
(b) The efficient use and development of natural and physical resources;
(c) The maintenance and enhancement of amenity values;
(d) Intrinsic values of ecosystems;
(f) Maintenance and enhancement of the quality of the environment;
(g) Any finite characteristics of natural and physical resources;
(i) The effects of climate change;

The term kaitiakitanga is defined as "*the exercise of guardianship, and in relation to a resource, includes the ethic of stewardship based on the nature of the resource itself.*" (Section 2 refers).

Section 8 requires all persons to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). This has been done in terms of the process of consultation with iwi and associated investigation of matters raised to date.

4.2 NZ Coastal Policy Statement

4.2.1 General Overview

The NZCPS has seven objectives and twenty nine policies, along with a schedule and glossary. The schedule on surf breaks of national importance is not relevant to the marina project.

Most of the objectives and policies are relevant to the project. There are no specific objectives and policies on marinas.

The policies on activities, reclamation, natural character, public open space, walking access, vehicle access, and contaminant discharges are pertinent to the project.

4.2.2 Policy on Reclamation

Policy 10 – Reclamation & De-reclamation, is in four parts.

Part 1 reads:

"(1) Avoid reclamation of land in the coastal marine area, unless:

(a) land outside the coastal marine area is not available for the proposed activity;
(b) the activity which requires reclamation can only occur in or adjacent to the coastal marine area;
(c) there are no practicable alternative methods of providing the activity; and
(d) the reclamation will provide significant regional or national benefit."

The proposed reclamation is required for marina parking during the week because the nearby Council parking areas are fully utilised by commuters and visitors. There is no available land in the immediate vicinity of the site that is available for marina parking. The only possible alternative to a reclamation is a cantilevered deck structure.

Investigations indicate that a deck type structure would cost considerably more than the proposed reclamation and would significantly increase the individual berth costs. A deck structure would also not make effective use of the dredgings, like the reclamation does, and their disposal onto land would add further costs to the project. The marina will attract visiting craft from other parts of the region and overseas and the reclamation will in this regard be of 'regional benefit'.

Part 2 of the policy lists seven matters that are to be 'had regard to' with the form and design of 'suitable' reclamations. The matters concerned, in summary, are effects of climate change, visual appearance, use of 'clean' (not contaminated) material, provision of public access, remedy or mitigate adverse effects, avoidance of cultural sites/landscapes, and avoidance of natural hazards. All of the matters listed have been 'had regard to' in the form and design of the reclamation. As outlined earlier the height of the reclamation well accounts for climate change and both the dredgings and imported rock/fill will be of 'clean' nature. Full public access is proposed and no cultural sites or other valued resources are affected.

Part 3 reads:

> *"(3) In considering proposed reclamations have particular regard to the extent to which the reclamation and intended purpose would provide for the efficient operation of infrastructure, including ports, airports, coastal roads, pipelines electricity transmission, railways and ferry terminals and of marinas and electricity generation"*.

The proposed reclamation will provide for the efficient operation of the ferry terminal and marina. The parking for marina users on the reclamation will compliment (and not detract from) the nearby ferry terminal parking. The additional parking area will also be regularly used by the coastguard and be available during emergencies.

Part 4 on de-reclamation is not relevant.

4.2.3 Other Policies

<u>Policies on Activities</u>

Policy 6 – Activities in the Coastal Environment, is considered to be met. The marina has a functional need to be within the coastal environment and the recreational values of Waiheke Island and wider Hauraki Gulf will be enhanced by it.

<u>Policies on Ecological & Water Quality Matters</u>

Policy 11 – Biodiversity, Policy 12- Harmful Aquatic Organisms, Policy 21- Enhancement of Water Quality and Policy 23 – Discharge of Contaminants, are considered to be met. As outlined in the Poynter report no 'threatened', 'rare', 'at risk' or other species or habitats mentioned in Policy 11 are present in the marina area. The only discharge, being of treated stormwater from the reclamation, is in accordance with Policy 23. The existing water quality in Matiatia Bay is not 'deteriorated' so no enhancement measures are being proposed under Policy 21.

<u>Policies on Landscape & Natural Character</u>

Policy 13 – Preservation of Natural Character, Policy 14 - Restoration of Natural Character and Policy 15 - Natural Features & Natural Landscapes have been taken into account and are met. The LA4 report and Section 3.4 of the AEE address the natural character values of the Matiatia bay area and how the marina will preserve them.

The marina is considered to be an appropriate (or 'not inappropriate') use of the coastal environment under both Policies 14 and 15. No restoration or rehabilitation of natural character is being proposed under Policy 14 as the area is not degraded.

Policies on Public Open Space & Access

Policies 18, 19 and 20 deal with public open space, walking access and vehicle access.

In terms of public open space and walking access an esplanade reserve is proposed on the reclamation and there will be daytime access to the southern access pier and primary breakwater, along with 24 hour pedestrian access to the reclamation, viewing deck and boardwalk. In terms of vehicle access the design of the reclamation (revetment walls) will prevent vehicle access to the shoreline. The three policies are met.

Policies on Contaminants, Coastal Hazards & Processes

Policies 22, 23, 24 and 26 on sedimentation, contaminants, coastal hazards and natural defences are applicable to the project.

The marina will not adversely affect sedimentation patterns as outlined in the IMC report. The stormwater system will have treatment devices to minimise sediment input as outlined in the Riley report. Human waste from vessels will be managed via a pump-out facility at the marina. Stormwater discharge from the reclamation carpark area will be treated at the point of discharge. The marina design provides for adequate protection from potential coastal hazards including storm surge and climate change, as outlined within the Cardno and IMC reports. The policies are considered to be met.

4.3 Regional Policy Statement

4.3.1 General Overview

The Auckland Regional Policy Statement (ARPS) was declared operative in August 1999. It has eighteen chapters and several appendices, schedules and maps. Chapter 6 – Heritage, Chapter 7 - Coastal Environment and Chapter 8 - Water Quality are the most applicable to the proposed marina. Some of the provisions in Chapter 2 – Regional Overview and Strategic Direction and Chapter 3 – Matters of Significance to Iwi are also relevant.

There have also been several proposed changes of which Proposed Change 8: Landscape, is most relevant. This plan change remains subject to appeal and is not operative. Substantial changes were made to Chapter 6 of the ARPS in response to submissions, and the October 2010 decisions version of the ARPS is referred to in this report, even though it is not operative.

4.3.2 Heritage Provisions

Chapter 6 – Heritage deals with cultural and natural heritage, including landscapes. There are four objectives, twelve policies and five methods on landscape in Section 6.3 of the October 2010 decisions version of the ARPS.

Objectives 6.3.4 and 6.3.6 relate to 'outstanding natural' landscapes identified on maps in the plan. The land surrounding the marina site is not identified on Map 15 as an 'outstanding natural landscape'.

Objective 6.3.5 seeks "*to maintain the overall quality and diversity of character and sense of place of the landscapes…*." The marina project does this by being located within a mooring area and adjacent to a major ferry terminal.

The policies and methods in Section 6.4.22 and 6.4.23 are related to the objectives and many relate to 'outstanding natural landscapes' that are not relevant to the project. None of the policies are mention marinas or are directed at Matiatia Bay.

4.3.3 Coastal Environment Provisions

Chapter 7 – Coastal Environment, identifies nine issues and has eleven objectives and nine sets of policies and methods, most of which are relevant to the proposed marina. In terms of issues the section recognises that "*dredging is necessary in some parts of the CMA and the disposal of dredged material….needs to be provided for in a way which avoids significant adverse effects"*. The objectives are derived from the identified issues and other matters. Objectives 4-7 are the most specific to the project in terms of 'enabling use of, and 'recreational opportunities in, the coastal environment' (4 & 7), 'reducing the risk of environmental damage' (5), and 'enhancing public access to publicly owned land in the CMA' (6).

The sets of policies and methods are very comprehensive with those on natural character, subdivision, use and development, public access and dredging/dredging disposal being the most directive in terms of the marina proposal. The policies on natural character distinguish between areas which have 'high' and 'not high' natural character values. As outlined earlier the LA4 report finds that the marina site falls into the 'not high' category.

There are ten policies and four methods on subdivision, use and development in Section 7.4.10. Policy 2 requires applicants to have regard to the 'appropriateness' of activities with clause (vii) directing attention to "*scale, design, and location that maintain or enhance landscape values in the area, including seascapes and landforms*". Policy 2 is met in terms of proposing a relatively small compact marina adjacent to existing wharf, boat launching and parking facilities. Policy 4 requires applicants to have regard to 'any available alternatives', with proposals involving rights to occupy the CMA. This has been done as outlined earlier in this report.

The policies on public access and dredging - dredging disposal have also been taken into account and are generally complied with. Public access to the CMA will be enhanced through the reclamation, boardwalk, southern access pier and primary breakwater proposals.

4.3.4 Water Quality Provisions

Section 8 – Water Quality identifies four issues and has one objective and eight sets of policies and methods, several of which are relevant to the marina proposal. In terms of issues the section states that "*coastal waters adjacent to areas which have been extensively urbanised are also at high risk of degradation due to cumulative effects of urban activities*."

Section 8 goes on to note that "*the impact of contaminant discharges on areas with good tidal flushing is difficult to determine …*" and "*these areas have been called susceptible to degradation, but indeterminate*". The issues section also recognises that "*some water bodies and coastal waters have significant high ecological values and are susceptible to degradation*". Areas which fall into these categories are identified on maps (Map Series 5) in the policy statement. Matiatia Bay is not identified on the relevant Map 5 Sheet 1 – Water Quality – Degraded & Susceptible Areas as an 'Area of Known Degradation' or 'Area Susceptible to Degradation'.

The bay is also not shown on Map 5 Sheet 3 – Areas of High Ecological Value as an 'Area requiring Greater Emphasis for the Avoidance and Mitigation of Adverse Effects of Water Quality'.

The policy sets on stormwater and sediment discharges, maritime activities and sewage reticulation and disposal are most applicable to the marina. In accordance with Policy 1 on stormwater the parking and other onshore facilities are to be served by a system which will "*mitigate the adverse effects of urban stormwater runoff on the aquatic receiving environment.*" The policies on these matters are considered to be met.

4.4 Regional Plan: Coastal

4.4.1 General Overview

The Auckland Regional Plan: Coastal (RCP) was made largely operative in August 2004. Several variations have been notified, some of which are 'on hold'. Variation No.1 regarding stormwater discharges is relevant to the marina project.

The operative plan has seven parts along with schedules, appendices and maps. Part II – Management Areas, Part III - Values and Part IV – Use and Development are the most applicable to the marina project.

Part IV has three broad objectives, being as follows:

> "*To provide for appropriate subdivision, use and development in the coastal marine area and to protect the coastal marine area from inappropriate subdivision, use and development."*
> *To ensure that efficient use is made of the coastal marine area,*
> *To maintain where appropriate the open space nature of the coastal environment*"

Implementation of the objectives is carried out through policies and management areas, each of which has rules on activities. There are nine management areas, including "Marina Management Areas", "Moorings Management Areas"(MMA's) and "General Management Areas"(GMA's).

4.4.2 Management Areas

The marina is predominantly within an MMA, although some parts extend into the adjacent GMA. The boundaries of the MMA are not entirely clear from the relevant RCP map (Series 1 Sheet 41), which is at scale of 1: 50,000.

Figure 76 contains shows the approximate extent of the northern bay MMA in relation to the marina. As shown in the figure most of the marina is within the MMA. The secondary breakwater, parts of the primary breakwater and southern access pier, along with all of the reclamation, are in the GMA.

There are no "Marina Management Areas" on Waiheke Island. As outlined earlier in this report "Marina Management Areas" only cover existing marinas and in this sense they are not intended to identify where new marinas are expected or considered generally appropriate.

<u>Mooring Management Area</u>

The purpose of MMA's is "*to encourage the concentration of moorings within defined areas for management purposes and to ensure efficient use of the coastal marine area*."

Swing moorings are permitted activities in MMA's, whilst pile moorings are limited discretionary activities within them.

Rule 23.5.8 in Section 23–Marinas, provides for "*any marina proposal outside of any marina management area, except Coastal Protection Areas 1 and 2* ", as a discretionary activity. This makes any 'marina' in a MMA a discretionary activity.

General Management Area

The GMA, as noted in the plan, is by far the largest management area in the plan. It has no specific purpose. Marinas in the GMA are also a discretionary activity under Rule 23.5.8.

4.4.3 Definition of Marina & Related Rules

The rules on marinas are in Section 23 – Marinas, of the plan. The term 'marina' is defined in the plan as "*a comprehensively designed facility primarily for the accommodation of boats, comprising berths, pontoons and piers and any associated reclamations and breakwaters. A marina may also include land based areas for car parking and associated facilities and servicing*". All of the facilities in the proposed marina, including the floating office are considered to be 'associated' with marina and fall within the definition.

The only components of the marina which do not fall within the 'marina' definition, are the capital dredging, reclamation and associated viewing deck, boardwalk, stormwater outfall, associated stormwater discharges and pile moorings. They fall for consideration under the more specific rules on dredging, reclamation, moorings, structures and discharges in other sections of the plan as outlined later in this report.

Although the definition of marina includes 'associated reclamations' the specific rules on reclamations in Section 13 only make provision for them (as discretionary activities) in the Devonport Defence, Marina and Port Management Areas. No specific provision is made for reclamations in 'other' management areas. This includes the General Management Area that applies to the site of the proposed reclamation.

Rule 23.5.8 provides for marina structures and ancillary activities within Marina Management Area as permitted activities. Marina proposals are provided for as discretionary activities in all other management areas, except Coastal Protection Area 1 or 2, under Rule 23.5.8. The proposed marina is covered by this rule.

4.4.4 Rules on Dredging

The rules on dredging in Section 15 make provision for "capital works dredging, except in Coastal Protection 1 and 2 Areas", as discretionary activities. "Maintenance dredging" is provided for as a restricted discretionary activity in the Marina Management Area and a few other specified management areas, and as a discretionary activity in most other management areas, except Coastal Protection 1.

The definition of capital dredging refers to "*the disturbance of the seabed by excavation and removal of material beyond existing approved levels".* The definition of maintenance dredging refers to *"dredging of the bed of the sea necessary to maintain water depths to previously approved levels for the safe and convenient navigation of vessels, in navigation channels and at berthing and mooring facilities, including marina developments*".

The proposed dredging is of a 'capital' nature, as there are no records of the area being dredged in the past. As such it is a discretionary activity under Rule 15.5.10. The proposed 'undercut' beneath the bund wall of the reclamation is also a form of capital dredging that requires discretionary activity approval under Rule 15.5.10.

4.4.5 Rules on Reclamation

The rules in Section 13 – Reclamations are applicable to the proposed reclamation. A reclamation is defined as "*any permanent filling of an area previously inundated by coastal water either at or above mean high water springs mark* …..". The definition goes on to exclude 'ramps' and other structures "*where the newly created land is subject to the ebb and flow of the tide*".

Rule 13.5.2 provides for reclamations in the Port, Marina and Devonport Defence Management Areas as discretionary activities. Reclamations in all other management areas (except some parts of the Coastal Area 1 Protection or affect a site on the Cultural Heritage Schedule 1 which are prohibited activities), are deemed to be non-complying activities under Rule 13.5.3.

The proposed reclamation is on the above basis a non-complying activity.

4.4.6 Rules on Stormwater Discharges

Section 20 – Discharges contains rules on various forms of discharges into the coastal marine area. They were amended by Variation No.1 that is still under appeal.

Rule 20.5.12 states that the diversion and discharge of stormwater not provided for by Rules 20.5.10 and 20.5.11 (relating to network utility operators) is to be considered under the relevant provisions of Chapter 5 of the ALWP, as if those provisions were rules contained in Chapter 20 of the RCP. However Chapter 5 of the ALWP is not yet operative, and therefore the provisions of the Transitional Regional Plan apply. The relevant rules of these two regional plans are discussed in Section 4.6 of this report.

4.4.7 Rules on Structures & Moorings

Section 12 – Structures, contains rules that apply to those structures that are not part of the 'marina' (as defined). A small number of structures are provided as permitted or controlled or restricted discretionary activities.

Rule 12.5.8 is a general 'catch all' that provides as a discretionary activity for "*the erection or placement of any structure that is not provided for in any other rule contained in this chapter and is not located in Coastal Protection Areas 1*." This rule covers the reclamation, stormwater outfalls, viewing deck and boardwalk. They are all 'structures' that fall within Rule 12.5.8 and are discretionary activities.

Section 24 has rules on moorings. Rule 24.5.4 provides for pile moorings within Mooring Management Areas (MMA'S) as a restricted discretionary activity, whilst Rule 24.5.5 provides for them in other areas, except Coastal Protection Area 1 and Special Activity Areas, as discretionary activities.

The proposed pile moorings are outside the 'designated' MMA as shown in **Figure 76.** As such they require consideration as a discretionary activity under Rule 24.5.5.

4.4.8 Rules on Occupation

Section 10 – General, and Section 11 – Activities, of the plan include rules on occupation of structures and other facilities in the CMA. Rule 10.5.9 deems the occupation of any activity that is a discretionary activity in another rule of the plan, such as the marina and pile moorings, to likewise be discretionary activities. This rule also applies to the boardwalk and other structures.

Rule 11.5.1b effectively requires public access to, along and within the CMA not be permanently restricted at any time. The proposal to restrict day time access to Piers A-D and night time access to the southern access pier and primary breakwater requires consideration as a discretionary activity under Rule 11.5.5.

4.4.9 Plan Objectives & Policies

The RCP has a number of objectives and policies which are applicable.

The following brief assessment is provided.

Chapter 3 - Natural Character & Chapter 4 – Landscape

The marina adjoins a 'Regionally Significant Landscape' where the most stringent policies apply. However as outlined in Section 3.5 the area around the marina is substantially modified and it will be consistent with the existing largely built character of the Matiatia wharf area.

Chapter 5 - Natural Features and Ecosystems

The objectives and policies in this chapter focus on the highly valued Coastal Protection 1 and 2 Areas identified in the plan. The marina is not within one of these areas.

Chapter 6 - Coastal Matters of Significance to Maori

This chapters policies on the relationship of Maori with their ancestral taonga, consultation and kaitiakitanga are met. These matters have been taken in to account in the investigation process and consultation with Ngati Paoa and Ngai Tai to date. Ongoing consultation is also planned to ensure all matters of significance to Maori are dealt with.

Chapter 7 – Public Access.

The policies in this chapter on maintaining and enhancing public access to the coast are complied with.

Chapter 8 – Cultural Heritage

The objectives and policies in this chapter focus on the sites, buildings, places and areas identified in the Cultural Heritage Schedules 1 and 2 in the plan. The marina does not affect any scheduled site, building place or area.

Chapter 9 – Subdivision, Use and Development

This chapter's objectives and policies are fairly general. Objective 9.3.2 recognises the national and regional importance of activities which depend upon the use of natural and physical resources of the coastal marine area, including 'water based recreational activities'. It is relevant to the project.

Chapter 13 – Reclamation & Drainage

The two objectives and nine policies in this chapter are applicable to the proposed reclamation.

Policy 1 effectively defines what is considered to be 'inappropriate' reclamation by reference to six clauses (a) - (f). Clause (a) effectively considers them 'inappropriate' if they are not for "*either the operational needs of a port in the Port Management Area, or for intensification of existing or approved marinas within Marina Management Areas, or for port purposes within the Devonport Defence Management Area….*".

The proposed reclamation is not within a 'Port', 'Marina' or 'Defence' zone and on this fairly narrow basis could be considered 'inappropriate'. However it does provide for 'intensification' of moorings/berthed craft in the largest mooring area serving Waiheke Island and is next to a major ferry terminal. On this basis much wider planning basis it is considered very 'appropriate'.

The proposed reclamation complies with Clauses (b) – (f). In terms of Clause (b) as outlined earlier there is "*no method or practicable land based alternative*". Consideration was given to a cantilevered deck structure as an alternative method to provide all of the parking instead of a reclamation. However, the environmental effects would be very similar (primarily in terms of ecological and landscape/natural character) and a deck structure would cost significantly more to build and maintain. There is no undeveloped land in the vicinity of the marina that could be utilised for parking.

In terms of Clause (c) the reclamation is of the "*minimum area necessary*" to provide for expected weekday parking needs of marina users. Clause (d) requires the reclamation have "*either positive or minor adverse effects*", with the latter applying at Matiatia. Clause (e) which requires the finished appearance be "*as far as practicable compatible with the environment*" is met, as is Clause (f) that directs that reclamation "*avoid as far as practicable cumulative effects on the coastal environment*". There has been some past reclamation at Matiatia and the proposed reclamation should be seen in this context.

Chapter 15 – Disturbance of Foreshore and Seabed

In the introductory section Chapter 15 recognises that "*due to the relatively shallow nature of much of the Auckland CMA, the development of new facilities such as marinas….usually requires capital dredging to establish the necessary operational water depths….*". It goes on to highlight the potentially adverse environmental effects dredging operations can have on marine flora and fauna, local hydraulics, natural character and cultural heritage.

Objective 15.3.2 is "to minimise as far as practicable the need for dredging associated with new development…", whilst the related Policy 15.4.5 requires applicants to generally demonstrate that six matters are met. In summary, these are:

- There are no practicable alternatives methods, locations or designs which avoid or reduce the need for dredging;
- Dredging is undertaken at times of the day and year to avoid effects on vegetation, bird and fish life, recreational uses and other established activities;
- It will give rise to only short term and localised turbidity and no permanent long term effects;
- Dredging will avoid significant adverse effects on biota through release of contaminants;
- Coastal erosion will not be caused or exacerbated; and
- There will be no permanent loss of habitat of rare or endangered species.

Sections 2 and 3 of this report, along with the technical appendices show that the proposed dredging is consistent with these matters.

Chapter 20 – Discharge of Contaminants

This chapter has objectives and policies directed at discharges from boat maintenance activities, fuel facilities and sewage and stormwater systems.

The sewage pump out facility planned at the marina is in accordance with these provisions. Additionally, stormwater run-off will be appropriately treated prior to discharge.

Chapter 23 – Marinas

This chapter identifies the nature of existing marinas in the region and the 'issues' associated with them and any new facilities. Amongst the 'issues' recorded is the "*likely increase in demand for marina berths*". It goes on to highlight the potential for marinas to result in significant modification of the coastal environment, in terms of natural character, visual amenity and public access, but also their benefits in concentrating berths, improving safety and other factors.

The objectives and policies in this section provide general guidance on the siting and design of new marinas. They are generally complied with.

Policy 23.4.10 lists nine effects which, as far as practicable, are to be avoided, remediated or mitigated in the location scale and design of any marina. The effects concerned have been effectively dealt with in this report and the supplementary appendices.

Chapter 35 - Noise

The objectives and policies on noise are related to the rules referred to in Section 3.9 of this report. As outlined in this section and the Styles noise assessment the construction and operation of the marina will be undertaken in compliance with the plan rules.

4.5 Regional Plan: Sediment Control

This plan contains rules relating to "earthworks", "roading/tracking/trenching" and "discharges of contaminants into the environment".

The plan identifies "Sediment Control Protection Areas" (SCPA's), which include all areas 100m landward of the CMA. The associated rules on activities in SCPA's are relevant to the land based (fill) earthworks for the reclamation and the earthworks associated with the boardwalk connection onto the reserve.

Fill Earthworks & Sediment Runoff to Ground

The fill earthworks will extend approximately 13m above MHWS and as such are within a SCPA (100m wide). Rule 5.4.1.1 and Table 1 therein provide for earthworks affecting less than an area of 0.25ha within an SCPA as permitted activities, provided specified conditions are met. Rule 5.4.3.1 specifies that earthworks over areas greater than or equal to 0.25ha (2500m²) within an SCPA are restricted discretionary activities.

The earthworks associated with the fill part of the reclamation will affect an area of approximately 310m^2 in the road reserve.

The total affected area is within the permitted activity 'threshold' in Rule 5.4.1.1.

The Riley civil engineering and Poynter ecology reports note that fill earthworks are to be undertaken to comply with the conditions in Rule 5.4.1.1. The six conditions expected to be met are 1 and 2 (Sediment control), 3 and 4 (Runoff control), 5 (Implementation) and 6 (Existing authorisations). As such the proposed earthworks on the road reserve are a permitted activity and do not require land use consent under the Regional Plan: Sediment Control.

Rule 5.5.1 provides that any discharge of sediment laden runoff from earthworks that are a permitted activity under Table A in Rule 5.4.1.1 are likewise a permitted activity. This rule will apply to the small amount of sediment laden runoff to ground associated with the fill earthworks.

Reserve Boardwalk Earthworks & Sediment Runoff to Ground

The earthworks for the boardwalk connection (ramp) affect an area of approximately 30m^2. They are expected to be confined to an area immediately surrounding the ramp shown in **Figure 22** and extend 4-5m above MHWS. The earthworks, along with the sediment run-off from them, are likewise permitted activities, as set out in the Riley civil engineering and Poynter ecology reports.

4.6 Proposed Regional Plan: Air, Land & Water

The Proposed Regional Plan Air Land & Water (ALWP) has rules on stormwater discharges on land and into water that are above mean high water springs. They affect the small area of road reserve to be filled and drained.

The decisions on submissions to the Proposed ALWP were released on 8 October 2004. Some of the decisions have been appealed and the plan was made Operative in part on 28 October 2010.

Chapter 5 (relating to the diversion and discharge of stormwater) is one of the plan sections that is not yet operative. Accordingly, the proposed diversion and discharge of stormwater in the Ocean View Rd area has to be considered under the relevant rules of both the 2010 partly operative Regional Plan: Air Land & Water (ALWP) and the much older 1991 Transitional Regional Plan (TRP).

The ALWP contains provisions relating to discharges of contaminants to air, land and water, which apply generally throughout the region. The land adjacent to the marina is identified as being within the 'Waiheke Aquifer – High Use Aquifer Management Area' and also within a 'Rural Air Quality Management Area'. There are no rules associated with the two notations that affect the marina project.

4.6.1 Rules on Diversion & Discharge of Stormwater

The diversion and discharge of stormwater within the completed reclamation carpark and fill area is 'caught' by the rules on these matters in Section 5.5 of the plan. Under Rule 5.5.1 any stormwater diversion and discharge is a permitted activity if it arises from less than 1000m² of impervious areas and it complies with certain conditions. Diversions and discharges of stormwater from areas of 1000-5000m^2 are provided or as controlled activities, provided specified conditions are met, and those from areas greater than 5000m^2 are provided for as discretionary activities.

The reclamation car park and adjacent entrance/exit area on the road will have an impervious surface of approximately 2000m^2 as outlined in the Riley civil engineering report. As such the diversion falls into the controlled activity category under Rule 5.5.2.

The Riley civil engineering and Poynter ecology reports address the related rule conditions and show they will be met. As the activity status for the proposed stormwater diversion and discharge is more restrictive under the TRP, the provisions of this plan apply. However, significant 'weight' must be given to the objectives and policies of the ALWP as the TRP does not contain any such provisions.

4.6.2 Stormwater Related Objectives and Policies

The objectives and policies in Chapter 5 relating to stormwater are relevant to the proposed stormwater diversion and discharge. General Objectives 5.3.1 – 5.3.4 and Objectives 5.3.5 – 5.3.8 are applicable to the stormwater diversion and discharge and aim to protect, maintain or enhance the quality of land and water by minimising adverse effects. The Riley civil engineering and Poynter ecology reports address the effects arising from the stormwater discharge and demonstrate that these objectives are met. Objectives 5.3.9 – 5.3.18 are not applicable to the project.

Policy 5.4.4 Stormwater Diversions and Discharges and are relevant to the project. The policies require applicants to adopt the Best Practicable Option (BPO) for the diversion and discharge, as well as meeting standards for treatment and discharge (such as 75% removal of total suspended solids) and avoidance of erosion. The policies refer to compliance with the (former) ARC Technical Publication 10: Stormwater Management Devices: Design Guidelines Manual. The Riley civil engineering report addresses the proposed diversion and discharge and confirms compliance with TP10. The associated plan policies are considered to be met.

4.7 Transitional Regional Plan

The Transitional Regional Plan (TRP) simply consists of several general authorisations (or permitted activities). It has no objectives or policies.

General Authorisation Number 9 (GA 9) authorises stormwater discharges into the sea from impermeable areas not exceeding 1,000m^2, subject to specified conditions on the design of outfall structures. The discharges from the two stormwater outlets serving the reclamation parking area relate to an impermeable surface area of approximately 2010m^2, whilst the one stormwater outlet serving the reclamation vehicle access and redeveloped roadside parking area relates to an impermeable surface area of approximately 330m^2. Although the latter discharge could in itself be a permitted activity, collectively the combined impermeable surface area exceeds the GA 9 'threshold'. As such a discharge permit for the diversion and discharge of stormwater from all three outlets is being sought. The discharge permit is considered to be a discretionary activity under the TRP pursuant to Section 87B of the RMA.

4.8 Proposed District Plan

4.8.1 General Overview

The Operative District Plan 1996 (ODP) and the 2009 Decisions version of the Proposed District Plan 2006 (PDP) for the Hauraki Gulf Islands Area are relevant to the project. The ODP and PDP are similar in nature. The rules are based around 'land units', which are like zones.

Section 88 of the RMA states that a Proposed Plan must be had regard to if the resource consent application was made after it was notified. The PDP was notified in September 2006 and has been through the public submission and Council decision making phase. Decisions have been made on a number of the appeals and parts of the plan, for instance on noise and vibration, are 'in effect'. As such the PDP Decisions version of May 2009 has much greater 'weighting' than the ODP.

The May 2009 PDP version on the Council website identifies those parts of the plan that are still subject to appeals. This decisions version of plan has been used for this report.

4.8.2 Land Units & Notations

The Council road reserve land adjacent to the proposed marina is part of the "Matiatia (Gateway)" land unit. The adjoining DoC historic reserve is part of the "Open Space 1 (Ecology & Landscape)" land unit. The land unit or zoning pattern is shown in **Figure 77**.

The land adjacent to the marina also has some notations in the form of 'roading limitations' and 'scheduled items'. They are shown in **Figure 78**. Ocean View Road is identified as a "Primary Road" on the relevant planning map (Sheet 1 Map 2). The "Primary Road" notation is linked to rules controlling access to adjacent properties and areas.

Some properties in the vicinity the marina contain "Scheduled Items"' of a heritage nature. They are:

- 1-2 – Alison woolshed and yards (Category B building) to the north of the marina;
- 1-3 – Fenced historic grave of Ropata Roa to the south of the main wharf and ferry terminal; and
- 1-6, 1-7 and 1-12 – a number of Category A and B archaeological sites, including Mokemoke Pa to the northwest of the marina.

None of the "Scheduled Items" are affected by the marina project.

4.8.3 Matiatia (Gateway) Land Unit

The Matiatia (Gateway) Land Unit is further divided into three areas, being "Transport", "Mixed Use" and "Wetland", as shown in **Figure 79**.

Section 10a.18.4 of the plan states:

> "*The transport area is located directly behind the wharf and ferry building and makes specific provision for the passenger transport (buses, taxis and other multiple occupancy vehicles) and wharf associated activities located in this area*."

As outlined earlier a small area of fill earthworks and minor alterations to the road layout and mooring holder parking are proposed within the "Transport Area". None of the land based works associated with the marina are located within the other "Mixed Use" or "Wetland" areas.

4.8.4 Matiatia Gateway (Transport Area) Rules

<u>Rules on Activities</u>

"Car parking" is listed as a permitted activity in the Transport Area in Rule 10a.18.5.1.

The proposed alterations to the existing roadside parking are considered to be a permitted activity under this rule and do not require land use consent.

Earthworks Rules

The earthworks associated with the small fill area within the road reserve are probably a permitted activity.

The general rules on earthworks in Part 10c.5.6 and Table 10c.3 are related to the slope of the land, i.e. whether it is more or less than 1:6, their purpose and transportation. The land within the road reserve has a slope of less than 1:6 and the earthworks will affect an area of approximately 310m^2. This earthworks area is less than the 400m² 'threshold' set for land with a slope of less than 1:6 and as such expected to be considered a permitted activity.

Rule 10.5.6.2 lists four standards that are applicable to all permitted activities. Clause b states that "*no material must be deposited on any public road*". This clause b is probably directed at material being illegally 'dumped' on roads, rather than 'regular' earthworks associated with road construction. If this is not the situation then the proposed fill earthworks may be inadvertently 'caught' by the clause. There appear to be no other plan rules, including a definition of the term 'deposition of material on public roads'. Part 4.2 of the PDP effectively deems that any activity, including the construction of a building, or use of any land or building, which is not specifically provided for in the plan is a non-complying activity. If the 'deposition of fill' clause 'catches' the proposed fill earthworks then they would require approval as a non-complying activity under Rule 4.2.

Rule 10c 5.6.1 provides for earthworks trenches where required for network utility services (defined as including electricity, wastewater and water supply) and effluent disposal systems, subject to five specified conditions being met. As outlined in the Riley civil engineering report the trenching required for the proposed electricity, wastewater and water supply services will comply with the conditions in this rule. As such they are permitted activities.

Noise Rule

The noise Leq and Lmax limits in Rule 10c 5.4 and related Table 10c.3 were discussed in the Styles report and Section 3.9 of this report. The rule will be met.

4.8.5 Open Space 1 (Ecology & Landscape) Rules

Rules on Activities

Rule 10a.22.6 provides for a number of activities, including the following:

- "Observation areas, viewing platforms and related structures" as a permitted activity;
- "Marine recreation facilities" as a discretionary activity.

The landward end of the proposed boardwalk could be considered an 'observation area related structure' and as such be a permitted activity. Alternatively it could fall for consideration as a 'marine recreation facility' and be a discretionary activity. As outlined below the activity status is of limited relevance because of the coastal protection yard rule.

Earthworks Rule

Rule 10c 5.6 and Table 10c.4 limit permitted activity earthworks in the historic reserve to no more than 400m^2, where the slope is less than 1:6 and no more than 50m^2 where the slope is more than 1:6. This rule applies to the earthworks required to form the landward connection of the proposed boardwalk onto the historic reserve.

The slope of the land in the part of the reserve affected by the earthworks is generally less than 1:6. The reserve area affected by earthworks is approximately 30m^2. On this basis the earthworks are generally a permitted activity. However as outlined below they will be located within a 'Coastal Protection Yard' and are 'caught' by the associated rules.

Coastal Protection Yard Rule

Under Rule 10c 5.7 and Table 10c.3 no building and no earthworks are permitted to take place within the 'coastal protection yard' that is deemed to be 30m inland of MHWS. The rule excludes boardwalks and other named facilities constructed by DoC or by DoC contractors under specified circumstances.

DoC staff have indicated 'support' for the proposed boardwalk, but it has not been 'approved' as such. The proposed boardwalk and the associated earthworks will be within 30m of mhws and caught by the rule. The landward end of the boardwalk and associated earthworks are discretionary activities under Rule 10c.5.7.

Noise Rule

Rule 10.5.4 also applies in this land unit. It will be met as outlined in the Styles report and Section 3.9 of this report.

4.8.6 Rules on Transportation of Clean Fill

The earthwork rules in Section 10C 5.6 provide for up to 200m^3 of 'clean fill' to be transported by road as a permitted activity, between 200m^3 and 5000m^3 as a restricted discretionary activity and more than 5000m^3 as a discretionary activity. The term 'clean fill' also does not appear to be defined in the plan. However it is expected to include rock, bulk fill, base course and topsoil material used in reclamations and other development projects.

As outlined in the Wardale construction report the bulk of the materials to be used in constructing the reclamation will be barged to the site. The only 'clean fill' to be transported by road to the site will be the approximately 600m^3 of base course material underlying the top sealed pavement and 60m^3 of topsoil used for the landscaped areas. The total volume of around 660m^3 being transported by road requires consideration as a restricted discretionary activity under Rule 10c 5.6.3.

Rule 10c 5.6.3 lists four matters that the Council has reserved its discretion over in respect of restricted discretionary activity applications. Information on the four matters listed is provided in the specialist reports and this report.

4.8.7 Parking & Loading Rules

The Section 13 rules on site access and parking and loading apply to the marina project.

Site Access

The Section 13.6 rules on site access have rules on vehicle access gradients and vehicle access near road intersections.

Rule 13.6.1 on vehicle access gradients is met as the gradient from the road to the reclamation parking area will be less than 1:6 as outlined in the T2 report. Rule 13.6.2 is also met as although the reclamation parking area access is off a 'primary road' it is not within 50m of any intersection.

Parking & Loading

Rule 13.6.2 requires any person who constructs a building or changes the use of a site to provide on-site parking area in accordance with Table 13.1. Table 13.1 lists the parking standards for a number of different land use activities but marinas and moorings are not amongst them.

Rule 13.7.2 places a similar obligation on people in respect of the provision of on-site loading areas for heavy truck deliveries in accordance with Table 13.2. Marinas and moorings are not specifically identified in Table 3, although could fall within Category 2 -'other activities'.

Rule 13.7.1 states that any activity which does not comply with the parking and loading rules is a restricted discretionary activity. There is no particular parking standard for marinas and moorings and the loading rules as they apply to marinas are uncertain.

Restricted discretionary activity consent is being sought for the proposed parking and loading arrangements. It is possible that they fall for wider consideration as discretionary activity under Section 87B of the Act.

Rule 13.7.5 lists nine assessment criteria that will be used by the Council when considering applications to reduce the number of required parking and loading spaces. All of the criteria listed, except 5 relating to on site wastewater disposal, are relevant to the marina project. They are addressed in the T2 report in **Appendix H**. Criteria 3, 4 and 6 on travel demand management, less than normal demand and physical practicality, are particularly relevant.

Rule 13.7.4 contains standards on the design and formation of parking and loading areas.

The T2 report covers the standards in Clauses 2, 3, 4 and 6. Clause 1 is not relevant to the project. Clause 5 that requires the screening of parking spaces where there are four or more adjacent to or visible from Open Space land units is not met. A solid fence/wall or dense screening at least 1.8m high is neither practicable nor appropriate for the site concerned.

Disabled Parking

Rule 13.7.4 2b requires disabled parking spaces be provided in accordance with the NZ Standard, NZ 4121 -2001. As outlined in the T2 report, whilst three disabled spaces are required under NZS 4121, only two such spaces are being proposed in the reclamation. This is because the car park will not be available to the general public and very few berth holders and visitors are expected to require disabled parking spaces.

The provision of two rather than the required three disabled parking spaces on the reclamation requires consideration as a restricted discretionary activity under Rule 13.7.4.2b. As outlined earlier there are two disabled parking spaces nearby at the end of Ocean View Rd.

4.8.8 Network Utility Services Rules

The rules in Section 5.5 apply to the electricity, water supply and wastewater services in the road. They do not apply to the wastewater and water supply facilities in the reclamation that is in the CMA.

The table in Rule 5.5.1 lists "*Underground telecommunication, electricity and wastewater network utilities*" as permitted activities.

This clause covers the underground electricity and water supply lines in the road.

The same table provides for "*Any aboveground telecommunication, electricity or wastewater network utility that has an area not exceeding of 2m^2 in plan view and does not exceed 1.6m in height (excluding plinth) provided that this rule excludes masts and antennas"* as permitted activities. The electricity transformer is expected to comply with area and height conditions and as such be a permitted activity.

4.8.9 Land Unit Objectives & Policies

Matiatia Gateway

The objectives and policies for the Matiatia Gateway land unit are in Section 10a.18.3 of the PDP. There are three objectives and fourteen policies. Most of them are applicable to the project.

Objective 10a.18.3.1 and the underlying six policies seeks to develop a safe and efficient transport network while maintaining the landscape character of Matiatia. Policy 1.1 refers to wharf-associated activities and passenger transport activities having priority over single occupancy vehicles. Policy 1.3 refers to parking areas being integrated with proposed mixed use development. The emphasis on wharf-associated activities and passenger transport rather than private use means that a reclamation for private marina vehicles could be considered inconsistent with this part of the plan.

Policy 1.6 seeks to avoid adverse effects on the landscape character of Matiatia by ensuring that medium to large scale car parking areas are not located adjoining the esplanade reserve nor 'highly visible' to those arriving at Matiatia.

The proposed parking reclamation will be adjacent to the historic reserve and visible to people arriving on ferries. However it will not be 'highly' visible, being 'hidden' to a degree by the marina structures, visiting craft adjacent to and alongside the southern access pier and the fuel berth to the south.

Open Space 1

The objectives and policies in Sections 10a.22.3 and 10a.22.4 aim to promote the use and enjoyment of Open Space 1 land units for passive recreation and provide for marine recreation activities to establish and operate. The small landward connection of the public boardwalk structure is consistent with these objectives and policies.

4.9 Operative District Plan

4.9.1 Land Units & Notations

The Council road reserve is in "Land Unit 27 – Matiatia" whilst the DoC historic reserve is in "Land Unit 17 – Landscape Amenity", as shown in **Figure 80**.

The scheduled item shown as 3.27 on the adjoining land is identified as the Urupa on Pt 12A SO 5243, Matiatia and will not be affected by the proposal.

4.9.2 Land Unit 27 (Matiatia) - Rules

Land Unit 27 (Matiatia) is divided into 5 'precincts', each with a specific focus.

The northern end of the road reserve where the small area of fill and altered roadside mooring holder parking is proposed lies within "Precinct 4 – Wharf/Gateway" as shown in **Figure 81**.

Earthworks Rules

Under Rule 6.27.4 earthworks in this land unit/precinct with a volume less than 50m³ are permitted activities, those of 50-100m³ are controlled activities and those more than 100m³ are restricted discretionary activities. As outlined earlier the volume of fill placed in the road reserve will be approximately 60m^3. As such the earthworks fall into the controlled activity category.

Rules on Car Parking & Other Activities

Rule 6.27.4.1 provides for car parking at ground level as a permitted activity and below ground level as a controlled activity in Precinct 4.

The reclamation carpark will not extend into Precinct 4 and is therefore not affected by these rules. The minor alterations to the Council roadside parking are in the precinct but a permitted activity. The plan rules also provide for public amenity facilities observation and viewing areas, boardwalks, footpaths, seating, street furniture and lighting equipment as permitted activities.

Rule 27.4.2 B (h) lists parking standards for specified activities. Marinas and moorings are not amongst the list of activities. There is an 'all other activities' listing , which requires 1 space per 100m^2 gross floor area, but is not applicable. The loading standards are likewise based on the gross floor area of buildings and equally irrelevant.

The proposed parking and loading arrangements fall for consideration as a discretionary activity under Section 87B of the Act.

Rules on Utility Services

The activity table in Rule 6.27.4.1 lists "*utility services, excluding stormwater management facilities and wastewater treatment and supply facilities*" as permitted activities. This rule covers the electricity and water supply facilities for the marina.

"S*tormwater management facilities and wastewater treatment and supply facilities where an ARC consent is required but not held"* is a restricted discretionary activity. This rule covers the slightly altered stormwater drainage facilities on the road reserve around the carpark entrance/exit and mooring holder parking.

There appears to be no rule covering the private wastewater line from the marina through part of the road reserve to the holding tank in the reclamation. It probably requires consideration as discretionary activity under Section 87B of the Act.

4.9.3 Land Unit 17 (Landscape Amenity) - Rules

Land Unit 17 (Landscape Amenity), includes all of the historic reserve.

The land unit rules in Section 6A, plus those on (coastal) protection yards, indigenous vegetation clearance, earthworks and noise in Section 6B apply to the proposed landward connection of the boardwalk within the reserve. There is also a 'particular' rule (permitted activity) concerning reserve management plans that is relevant.

Land Unit Rules

Rule 6.17.4.2 provides for the erection of any building as a controlled activity, provided the standards in Section 6B are met. The boardwalk is a 'building'.

Particular Rule on Reserve Management Plans

Rule 6.17.4.3B – Discretionary Activity, states that a resource consent application must be made for "*any use of land or buildings where there is no operative management plan pursuant to the Reserves Act, the Conservation Act and the Local Government Act*". DoC staff advise that the Matietie Historic Reserve is not the subject of an operative 'reserve' management plan and therefore this rule applies to the proposed boardwalk connection.

Coastal Protection Yard Rule

Rule 6C 1.3.7 - Protection Yards & Water Systems, requires that "*no building or activity*" takes place within the coastal protection yard that is deemed to be 30m inland of MHWS, "*except for passive recreation and vegetation planting for the purpose of protection and conservation of the landscape*".

The landward connection of the proposed boardwalk and the associated earthworks will be within 30m of MHWS and caught by this rule. Under Rule 6C1.0 of the ODP the landward connection of the boardwalk and associated earthworks are deemed to be non-complying activities.

Earthworks Rule

Rule 6B 1.3.6 – Earthworks, limits permitted activity earthworks to no more than an area of $30m^2$, and specified conditions are met. Some exceptions to the rule, for instance earthworks for utility services, are also specified. As outlined earlier the area of earthworks on the historic reserve affected by the earthworks is estimated to be approximately $20m^2$. They are therefore a permitted activity.

Noise Rule

Rule 6B 1.3.5 – This rule will be met as discussed earlier in this report.

4.9.4 Rule on Transportation of Clean Fill

The rules on the on the transportation of clean fill in the ODP are similar to those in the PDP. Rule 6B 1.3.6. F(ii) only provides for up to $200m^3$ of clean fill to be transported as a permitted activity. Under Rule 6C1.3.6 the transportation of more than $200m^3$ is a restricted discretionary activity.

The proposed transportation of approximately $660m^3$ of clean fill requires consideration as a restricted discretionary activity. Rule 6C 1.3.6 identifies five matters that the Council has restricted its discretion to in relation to all earthworks applications. Criterion 4 is specific to effects on public roads. Information of the matters identified is provided in the T2 and Wardale reports.

4.9.5 Land Unit Objectives & Policies

Land Unit 27 (Matiatia)

The relevant objectives and policies for Land Unit 27 – Matiatia – are in Section 6.27.3. There are two objectives and sixteen policies.

The first objective seeks "*to enable Matiatia to function as a gateway to Waiheke Island….with a mix of land uses …..as well as enhancing public access to the open space and esplanade reserve areas*". The marina project, including the boardwalk, is consistent with this objective. The second objective of "*recognising the importance of the area as a transport interchange*…." is also not compromised by the project.

The marina project is also consistent with the underlying policies that aim to "*providing for a range of recreational …activities ...that provide for the changing needs of island residents and visitors* " and "*ensuring that land use activities do not e compromise the efficient movement of traffic, people and goods*". Policy 6.27.3.2D also refers to any approved Matiatia Transportation Plan as a guiding document for ensuring that all transportation issues within Matiatia are identified and adequately addressed.

Land Unit 17 (Landscape Amenity)

The objectives and policies within Land Unit 17 – Landscape Amenity are contained in Section 6.17.3. There are four objectives and three policies. The objectives are to "*provide for the management and protection of public open space for passive recreation*" and "*limit buildings and land use activities within the land unit*'" These objectives are supported by policies that seek to limit the use and development, protecting and conserving features, protecting landforms, maintaining public access and controlling the location and design of buildings. The very small public boardwalk connection onto the reserve is consistent with the land unit objectives and policies.

4.10 Activity Status

The activity status of the different activities are summarised in the following tables.

Table 6: Regional Air Land & Water Plan: Activity Status

Activity	Rule	Status
Diversion & discharge of stormwater from reclamation impervious area (2000m^2) of 1000m^2 – 5000m^2	5.5.2	Controlled

The diversion and discharge of stormwater from the reclamation requires consideration as a controlled activity under the Regional ALWP.

Table 7: Transitional Regional Plan: Activity Status

Activity	Rule	Status
Diversion & discharge of stormwater from reclamation impervious area (2000m^2) of greater than 1000m^2	General Authorisation 9	Discretionary activity under Section 87B of RMA
Diversion discharge of stormwater from road reserve impervious area of less than 1000m^2	General Authorisation 9	Permitted

The diversion and discharge of stormwater is a discretionary activity under the TRP.

Table 8: Regional Plan Sediment Control: Activity Status

Activity	Rule	Status
Fill earthworks of approximately 260m^2 on road reserve associated with reclamation	5.4.1.1	Permitted
Runoff from same fill earthworks associated with reclamation	5.5.1	Permitted
Boardwalk related earthworks of approximately 20m^2 on historic reserve	5.4.1.1	Permitted
Runoff from boardwalk related earthworks	5.5.1	Permitted

The earthworks associated with the reclamation and the boardwalk, along with runoff from them, are permitted activities under SCRP.

Table 9: Regional Coastal Plan: Coastal Permit: Activity Status

Activity	Rule	Status
Capital dredging & reclamation undercut	15.5.10	Discretionary
Marina structures, including breakwaters	23.5.8	Discretionary
Breakwater & marina viewing platforms	23.5.8	Discretionary
Pile moorings	24.5.5	Discretionary
Reclamation	13.5.3	Non complying
Stormwater outfalls	12.5.18	Discretionary
Stormwater discharges	20.5.6	Discretionary
Floating office	23.5.8	Discretionary
Floating dinghy racks	12.5.18	Discretionary
Reclamation viewing deck & boardwalk	12.5.18	Discretionary
Exclusive occupation of marina and pile mooring water space	10.5.9	Discretionary
Restrictions on public access to marina piers and primary breakwater	11.5.5	Discretionary

The marina and related facilities are requiring consent under the RCP are generally discretionary activities, except for the reclamation, which is a non-complying activity.

Table 10: Proposed District Plan: Land Use Consent: Activity Status

Activity	Rule	Status
Earthworks in road reserve	4.2	Permitted
Electricity, wastewater and water supply services in road reserve	5.5.1	Permitted
Transportation of reclamation material	10c 5.6.3	Restricted discretionary
Boardwalk landing and earthworks within coastal protection yard on historic reserve	10c 5.7	Discretionary
Number of parking spaces, including spaces for disabled users	13.7.4	Restricted discretionary
No screening of parking spaces	13.7.4	Discretionary
No dedicated loading space	13.7.4	Restricted discretionary

The land based facilities requiring consent under the PDP are either restricted discretionary or discretionary activities.

Table 11: Operative District Plan: Land Use Consent: Activity Status

Activity	Rule	Status
Earthworks in road reserve	6.2.7.4	Controlled
Boardwalk landing and earthworks within coastal protection yard on historic reserve	6c.1.0	Non complying
Use of reserve land where no reserve management plan	6.17.4.3B.	Discretionary
Transportation of reclamation material	6c.1.6.3	Restricted discretionary
Number of parking spaces, including spaces for disabled users	None	Discretionary (S.87B of RMA)
No dedicated loading space	None	Discretionary (S.87B of RMA)
Stormwater drainage in road reserve	6.27.4.1	Restricted discretionary
'Private' wastewater service line in road reserve	None	Discretionary (S.87B of RMA)

The land based facilities requiring consent under the ODP are either controlled, restricted discretionary or discretionary activities, except for the boardwalk landing and earthworks on the historic reserve, that are non-complying activities.

Non Complying Activity Test

Section 104D (1) of the RMA imposes a special 'gateway' test on all non-complying applications. They must meet either limb (a) or limb (b). Limb (a) requires that the 'adverse effects of the activity on the environment be minor', whilst limb (b) requires the activity 'not be contrary to the objectives or policies of the relevant plan'. If a non-complying application does not meet one of the alternate tests in Section 104D then it must be declined and does not fall for wider consideration under Section 104, Part 2 and the other provisions of the RMA.

The proposed reclamation and earthworks on the historic reserve will, subject to the imposition of the effects avoidance and mitigation measures outlined earlier in this report and the related consent conditions, have 'no more minor' effects. Neither of these activities will be contrary to the regional and district plan objectives or policies, as generally outlined in this report.

4.11 Hauraki Gulf Maritime Park Act

The proposed marina is within the area subject to the Hauraki Gulf Maritime Park Act (2000).
The primary purpose of the Act in Section 3a is:

> *"To integrate the management of the natural, historic, and physical resources of the Hauraki Gulf, its islands and catchments".*

The Act provisions generally augment those of the Resource Management Act and the NZ Coastal Policy Statement. Of particular relevance are the following subsections of Section 8 that require the management of the Hauraki Gulf to recognise matters of national significance:

> *The protection and, where appropriate, the enhancement of the natural, historic, and physical resources of the Hauraki Gulf, its islands, and catchments;*
>
> *The protection of the cultural and historic associations of people and communities in and around the Hauraki Gulf with its natural, historic, and physical resources;*
>
> *The maintenance and, where appropriate, the enhancement of the natural, historic, and physical resources of the Hauraki Gulf, its islands, and catchments, which contribute to the recreation and enjoyment of the Hauraki Gulf for the people of the Hauraki Gulf and New Zealand.*

As outlined in Section 3 the proposed marina will protect and enhance the natural historic and physical resources of the Gulf and is consistent with these and other provisions in the Act.

4.12 Other Matters

The following non RMA based plans are relevant to the marina project:

- Matiatia Directional Plan 2008
- Matiatia Transportation Plan 2009
- Auckland Transport Plan 2009

- Auckland Regional Land Transport Strategy 2010
- Auckland Regional Public Transport Plan 2010
- Hauraki Gulf State of the Environment Report 2011
- Auckland Plan 2012

4.12.1 Matiatia Directional Plan

In 2008 the former Auckland City Council engaged a group of consultants to prepare a Matiatia Directional Plan. Council records indicate that the plan was intended to provide a 20 year vision for the future development of the Matiatia area as a destination, gateway and transport hub. Different 'traffic management options' and 'development axes' were investigated and a 'schematic site overview' was proposed.

The draft plan was presented to the former Waikeke Community Board in June 2009. Council staff have indicated that the plan is still in draft form.

4.12.2 Matiatia Transportation Plan

The Matiatia Transportation Plan was initiated in 2009. Council records indicates it was developed initially to address transport operational issues but it was expanded to include long term transportation needs in line with the outcomes of the draft Matiatia Directional Plan. The records indicate that the draft plan identifies a number of short term actions to enable better operation of the existing parking areas and improved pedestrian safety.

The draft plan was also considered by the former Waikeke Community Board in June 2009. Council staff have also indicated that the plan is still in draft form.

4.12.3 Auckland Transport Plan

The Auckland Transport Plan 2009 (ATP) was prepared by the former Auckland Regional Transport Authority (ARTA). The plan contains four chapters, a number of appendices, figures, maps and tables. The plan is 10 year forward planning document that *"brings together projects to implement the transport policies of the government and region …."* It includes a number of key projects including electrification of the rail network and an integrated ticketing system for public transport.

Chapter 2 – Implementation Plan 2009-2019, includes a section on public transport. The Waiheke Island ferry services and in particular the Matiatia ferry terminal is not mentioned. The plan does however refer to *"additional ferry terminals and services to provide additional capacity for connectivity by sea."* No specific Waiheke Island based projects are listed in the Section 2.3 –Ten Year Plan.

Chapter 4 – ATP Progress contains tables of 'strategic area' focus and outcomes. Table 11-Isthmus lists twelve focus and outcomes. None of them directed at Waiheke Island and in particular ferry services to and from the Matiatia area.

4.12.4 Auckland Regional Land Transport Strategy

The Regional Land Transport Strategy 2010-2040 (RLTS) was produced by the former Auckland Regional Council (ARC) in April 2010. The report has six chapters and several appendices.

Chapter 2 – Vision identifies four public transport service 'layers'; being a Rapid Transit Network (RTN), a Quality Transport Network (QTN), a Local Connector Network (LCN) and Targeted Services (TS).

Chapter 4 –The Strategy refers to the QTN as being "*a network of fast high frequency and high quality public transport operating between centres….including some ferry services*." The Waiheke Island ferry services are considered to be part of the QTN.

Section 4.7.3- Role of Public Transport, notes that in 2006 public transport accounted for 3.9% of all trips but this is expected to increase to 10.3% by 2040. It highlights the importance of ferries both currently and in the future noting they are able to move large numbers of people between population centres.

Appendix F - Public Transport Service Guidelines sets out the minimum service level guidelines for RTN, QTN and LCN services. In respect of QTN bus and ferry 'reliability and punctuality' 99.9% of services are expected to be operated as scheduled and 95% within 5 minutes of schedule.

4.12.5 Auckland Regional Public Transport Plan

The Auckland Regional Public Transport Plan 2010 (ARPTP) was prepared by ARTA in June 2010. The plan has seven chapters and related appendices. It was prepared under the Public Transport Management Act 2008 and "*specifies the public transport services which ARTA proposes for the region and the policies which apply to those services."*

Chapter 3 -Transforming Strategic Context, outlines a number of initiatives to improve the network. Section 3.2.5 - Improving the Infrastructure, has a 'ferry' component that lists three new or enhanced ferry terminals. Matiatia is not one of them. However this same section does note the importance of the existing infrastructure and need for progressive improvements. It states;

"*A comprehensive integrated passenger transport system must be supported by infrastructure to make passenger transfers easy and to provide reliable travel times".*

It goes on to note:

"Transport interchange facilities at RTN stations and major nodes on the QTN will facilitate passenger transfer by reducing transfer distance and time, proving a safer environment for waiting and passenger movements and giving access to transport information and trip planning help."

The Matiatia wharf and ferry terminal is a major QTN node. It is connected to the LCN of buses, taxis and other services.

Chapter 4 – Public Transport Objectives, identifies twelve objectives that in intended "*to underpin the RLTS and support the strategic direction for public transport….*". Ferry services and in particular those serving Waiheke Island, are not specifically mentioned but are indirectly part of or linked to several of the objectives. Of particular note are Objective 2 "*an integrated network of services that makes interchange between and within modes easy*" and Objective 9 "*a high standard of transport infrastructure*". The explanation to the latter objective refers to *"… well designed and well maintained …..ferry terminals….".*

Chapter 5 - Policies & Actions has more detailed provisions and includes the following references to ferry services:

5.1- Network Structure

Policy 1.5 -"*Improved access to ….ferry terminals"* with three 'actions' noted; and
Policy 1.10 –"*Services to Hauraki Gulf Islands and…*" with three actions, including "*facilitate ferry services to Hauraki Gulf Islands.*"

Many of the other Chapter 5 policies and actions are directly applicable to the ferry and other public transport services that are based at Matiatia. These include Policy set 5.2- Network Integration, which include the current ferry, bus and park and ride services. Policy set 5.4 –Service Reliability, and Policy set 5.9 – Infrastructure are also relevant.

Appendix 3 – Detailed Service Descriptions, contains information on the current Waiheke island ferry services, including their 'frequency' and 'service period'.

4.12.6 Hauraki Gulf State of the Environment Report

The Hauraki Gulf State of the Environment Report (2011) was produced by the Hauraki Gulf Forum. The forum was established under the Hauraki Maritime Park Act and is made of representatives of local and regional Councils, central government (DoC, Maori Affairs, and Ministry of Fisheries) and tangata whenua. It has a full time manager and has published a number of reports on implementing the Act.

The State of the Environment Report is the first of the required tri-annual reports directed at identifying "*progress on towards integrated management and responses to prioritised strategic issues*". The report has seven chapters along with a Chairman's forward and executive summary.

Chapter 3 - The Gulf, contains current and historical trend information on the features and values of the gulf, much of which is relevant to the marina project. Of particular note are the sections on geology, currents and circulation sediments, reefs and the gulf ecosystem. Some of the information in this section is cited in the Poynter ecology report.

Chapter 4 - Environmental Indicators, also has a lot of valuable information and assessments on nutrient inputs, sedimentation, water quality, fisheries, and biodiversity that are relevant to the marina project. As above some of this information and assessment work is cited in the Poynter report. Section 4.10 - Coastal Development notes, at the beginning, amongst the factors affecting coastal development "*modification of natural coastline through reclamation and construction of marinas*". The rest of this tends to focus on the pressure on the surrounding catchments from residential development, loss of camping grounds and other factors.

Chapter 5 - Research Gaps & Opportunities, Chapter 6 – Tangata Whenua and Chapter 7 - Response to Strategic Issues, contain a number of valuable insights and initiatives. Section 7.10 – Coastal Development, highlights the cumulative impact of development on the gulf ecology and landscapes. It also refers to relevant RMA based plans and the proposed Auckland Spatial Plan.

4.12.7 Auckland Plan

The Auckland Plan was produced in accordance with provisions in the Local Government Act that require the Auckland Council produce a 'spatial' to guide future growth and development of the area over the next 30 years. The plan is intended to make Auckland 'an even better place than it is now and create the world's most liveable city'. It was adopted by the Council after a process of community consultation, in March 2012.

Map 7.2 - Significant Recreation and Public Open Space Areas, identifies the inner Hauraki Gulf area including the waters around Waiheke Island as a place of 'high maritime recreational use for sailing and boating'.

Chapter 5 - Auckland's Recreation and Sport, contains a number of relevant 'priorities'. These include Priority 3, "*Maximise the contribution of recreation and sport to Auckland's economic prosperity*". In this regard Clause 362 notes "*The recreational marine industry is another major contributor to our economy, with 60% of New Zealand's marine companies based in Auckland and contributing $149 million to Auckland's GDP. Recreational boating, including kayaking, sailing and power boating, is expected to continue as a contributor to the Auckland economy*."

Chapter 12 - Auckland's Physical and Social Infrastructure, has a number of relevant priorities, including Priority 2 "*Protect, enable, align, integrate and provide social and community infrastructure for present and future generations*". In the context of an Auckland-wide 'quality of life', Directive 12.8 seeks to "*Maintain and extend the public open space network, sporting facilities, swimming pools, walkways and trails, and recreational boating facilities in line with growth needs.*"The Matiatia marina project has been developed with due regard to the Auckland Plan. The marina will be located in an area of high recreational boating, it will support the economically important recreational marine industry, and it will help address current and future boat 'mooring' needs of the Hauraki Gulf.

4.13 Consultation & Consideration of Affected Parties

4.13.1 RMA Provisions & Consultation Overview

Schedule 4 to the Act lists a number of matters that should be included in an AEE.
They include the following:

> *"identification of the parties affected by the proposal, the consultation undertaken, if any, and any response to the views of the any person consulted*."

Consultation with 'affected' parties. along with those parties with interests in the project began in early 2009 and related to the earlier 2011 marina design.

During the 2009-2011 period a number of parties were contacted by email, letter and/or phone and a number of meetings held. Following withdrawl of the applications for the 2011 project a number of parties who raised concerns about the marina design in terms of ferry wakes, wave climate and boat navigation and safety were contacted and discussions held. Draft plans were developed and refined during 2012 and early 2013.

Appendix V contains copies of relevant correspondence from WML and its advisors, along with responses from some of the affected and interested parties over the four year period. The consultation process has focused on those parties who are considered to be 'affected' by the project. However effort has been made to contact a number of wider 'interested' parties as outlined in the rest of this section.

The record of consultation includes some relevant material from the earlier 2011 marina project. This is because the 2013 revised marina layout is similar in a number of respects, with the principal differences being the rock breakwaters and additional pile moorings for affected mooring holders.

4.13.2 Affected Parties

Auckland Council and Predecessors

The Council own and manage the adjacent Ocean View Rd, along with the parking areas and wharves. As outlined earlier the proposed reclamation will abut the road reserve and both construction and operational traffic will use the road.

Several meetings have been held with Council staff (and predecessors at the Auckland City and Regional Councils). There has also been correspondence on some aspects of the project. Auckland Transport, Auckland Council Property Ltd (ACPL) and the Harbourmaster's office have been specifically consulted both on the 2011 and 2013 projects.

In terms of the 2013 marina design a few changes have been made (in relation to casual berthing, pile moorings, dinghy racks, and use of the viewing platforms) as a result of consultation with the Harbourmaster's office. They were outlined in more detail in Section 1.6 of this report.

The consultation with Auckland Transport and ACPL has covered most of the above matters along with parking, traffic and utility services. The proposed restrictions on construction traffic have been developed accordingly.

Department of Conservation (DoC)

DoC manage the Matietie Historic Reserve which is immediately adjacent to the east of the proposed reclamation and marina. As noted earlier the northern end of the boardwalk will join onto the reserve and an application for a concession under the Reserves Act is to be made to DoC.

Several meetings were held with DoC staff, including one on the 'site'. As a result of consultation with DoC, the design of the reclamation was altered significantly to avoid 'touching' the historic reserve.
The original design consisted of a reclamation abutting the reserve, while in the current design the reclamation ends below current MHWS. The only part of the project that touches the reserve is the northern end of the boardwalk.

A number of other issues were also raised in meetings with Doc staff, including:

- the stability of the historic reserve walkway and possible remedial measures as part of the marina project;
- design of the boardwalk and possible alternatives, including a floating structure;
- stormwater drainage facilities not affecting historic reserve;
- barrier arms, retractable spikes and other facilities to prevent unauthorized visitor use of the parking area;
- bollards along the road reserve boundary to limit vehicle parking on the edge of the reserve;
- esplanade reserve options; and
- the Reserves Act concession process and timing of it.

Section 3 of the AEE and the expert reports cover the above issues and effectively respond to them.

DoC staff were again contacted in February 2013 regarding the revised marina design. A meeting is being arranged with appropriate area and conservancy staff.

Mooring Holders and Waiheke Mooring Holders Society

Mooring holders within the marina footprint and those immediately adjacent to it will be directly 'affected' by the project. A number of mooring holders in the wider bay will also be indirectly 'affected', mainly through the construction process.

At the end of 2008, WML contacted the Harbormaster's Office and requested an 'up to date' list of all Matiatia Bay mooring holders. WML compiled a letter and 'Matiatia Marina Berth Survey' which was sent to all Matiatia Bay mooring holders by the Harbourmaster on WML's behalf.

The WML survey requested feedback from mooring holders whether they were interested in a marina berth, willing to move their Matiatia North mooring to a pile, or to take up a Matiatia South mooring relinquished by a prospective berth holder. The letter requested that mooring holders reply to WML directly and around 60 responses were received.

A very similar letter based survey process was undertaken in November 2012 involving the revised marina design. Follow up phone calls were also received or made to a number of mooring holders to clarify matters. **Appendix V** contains a copy of the letter and accompanying survey form. As outlined earlier responses have been received from most mooring holders and they are shown in the Indicative Long Term Moorings Management Plan in **Figure 36.**

WML have also undertaken consultation with mooring holders through the Waiheke Mooring Holders Society Incorporated. A letter was sent to society members in 2009 and project updates have been provided at several Annual General Meetings and Committee Meetings. The Society were again contacted in 2012 and early 2013.

Ferry Operators

Fullers who operate the daily ferry services to Matiatia wharf are an 'affected' party, along with Pine Harbour Ferries Ltd (PHFL), who operate a much less frequent service as outlined earlier in this report. Consultation with the Fullers and PHFL was initiated in early 2010, and was primarily undertaken by WML's navigation and safety consultant, Captain Jim Varney. Further meetings were held with Fullers in late 2012 and early 2013 regarding the revised marina layout. Many of the changes to the marina design have been made in response to the Fullers submission on the 2011 marina project.

The initial 2012 meeting focused on understanding the companies concerns with the earlier marina design and discussing possible changes. Subsequent meetings in 2012 and 2013 have discussed the proposed changes to the marina design, including location of the rock breakwaters, relocation of the marina entrance away from the ferry channel, no casual berthage on the southern access pier and provision of dinghy storage on both the northern and southern sides of the bay. The proposed parking and traffic arrangements, including use of barges and restrictions on construction traffic have also been discussed.

Wharf Commercial Operators

Salters Cartage is the operator of the existing fuel berth located on the floating pontoon immediately to the south of the proposed marina site. They are an 'affected' party.

Appendix V contains a letter from Mr Salter advising of the companies 'support' for the 2011 marina proposal. Mr Salter indicated at the time that he is keen to see the proposed sewage pump out co-located with the existing fuel 'swipe and pay' arrangement on the floating pontoon. This is being proposed by WML.

WML have recently written to Mr Salter updating him on the revised marina design. As the 2013 project does not alter the above situation similar 'support' is expected. The Council will be advised of the most recent consultation.

Commercial Users of the Boat Ramp & Other Regular Users

The Varney report documents the 2011 consultation with Sea Link and the former Waiheke Shipping Company (WMS), who have in the past used the adjacent boat ramp. Although WMS no longer appear to use the facility their suggestion that a protective pile be placed adjacent to the boat ramp to assist operators of large craft has been adopted.

Sea Link have been contacted again in February 2013 and the Council will be advised on the outcome of the consultation.

Various members of the public use the boat ramp. They will be 'affected' for a short period during the construction of the reclamation as outlined in the Wardale report. However as the users are largely unknown there has been no particular consultation with them to date.

Ngati Paoa

Former Auckland City Council staff indicated that Ngati Paoa are the recognised mana whenua for Waiheke Island.

The consultation with Ngati Paoa included a September 2010 site visit/meeting and various correspondence. As outlined earlier a Cultural Impact Assessment, (CIA) for the earlier marina project was commissioned and is in **Appendix R**.

Appendix V contains subsequent correspondence from Ngati Paoa on the earlier project. It raises two issues, namely the impending changes to foreshore and seabed legislation and the role of iwi in management of the marina.

There has been subsequent email correspondence and discussions with Ngati Paoa representatives. Ngati Paoa were sent copies of the latest plans in February 2013 and the Council will be advised of the outcome of the consultation.

New Zealand Historic Places Trust (NZHPT)

NZHPT is the historic heritage agency which administers the protection of heritage elements under the Historic Places Act 1993 (HPA). NZHPT were contacted in respect of the marina proposal, particularly the potential effects on several archaeological sites within the adjacent northern part of Matiatia Bay, as well as the wider bay.

Appendix V contains an October 2010 letter from the Trust advising it had no concerns or requirements in respect of the HPA, with regard to the 2011 marina layout. The letter notes that the Trust supported the 2010 archaeological report prepared by TDE. This report was similar to the 2013 report in **Appendix S**. The 'new report includes 'new' information on the MA Doran hulk and check of available Council and other records for other possible shipwrecks or the like in the 'new' breakwater area.

Appendix V contains a recent letter to the Trust advising of the 2013 revised marina layout and seeking any comments. The Council will be advised of any comments received.

Landowners in the Matiatia Bay Area

The landowners around the northern bay adjacent to the marina are potentially 'affected' as are those on the southern side of the bay who view the site, albeit at a greater distance. With the 2011 marina project a letters were sent in April and December 2010 to landowners in the immediate vicinity of the bay.

The first letter introduced the project, presented the draft design and the second letter was related to the 'finalised' design (following re-design of the reclamation as requested by DoC). Letters were sent to twenty eight landowners and twelve responses were received. Of the nine immediately surrounding landowners who were contacted, responses were received from eight. The main concerns raised by surrounding landowners in 2010-2011 were:

- Effects of dredging and reclamation on marine environment
- Visual effects
- Noise effects
- Traffic and parking effects
- Effects on heritage and archaeological features
- Effects on existing moorings
- Effects on ferry operators
- Effects on existing foreshore easement
- Marina water and wastewater supply/services

These matters have been reviewed as part of the 2013 revised marina layout project and some changes made. The most significant changes relate to the marina entrance being moved further away from the main ferry navigation channel, additional pile moorings for affected mooring holders, barge (rather than truck) transport of rock and fill material for the reclamation and no bollards at the entrance to the DoC historic reserve.

Appendix V contains a February 2013 letter to the 'same' landowners advising of the revised marina design and offering to meet and receive any comments. A small number of the properties have different owners as recorded on the spreadsheet attached to the letter. **Figure 82** shows the landowners who were contacted.

Mr Briggs, a landowner on the northern side of the bay, phoned with a few queries relating to some of the plans and other aspects of the project. He highlighted the recent changes to the mooring holder and disabled parking areas at the end of Ocean View Rd. Mr Briggs suggested that the proposed entrance/exit to the reclamation car park be reviewed to ensure it has no or minimal impact on both the off road parking and the roadside parking for buses, charter operators and taxis. These matters have been investigated and some alterations made to the reclamation access and parking layout.

Royal Forest & Bird Protection Society of New Zealand (RFB)

RFB is an independent conservation organisation, as well as a landowner within the wider Matiatia Bay. The RFB property is shown on the Quickmap plan in **Figure 82**.

The Hauraki Gulf Islands Branch of RFB were advised by letter of the 2011 project and two responses were received. They are in **Appendix V**. The first letter raised concerns about water quality, surveys of fauna. stormwater flows, disposal and treatment measures. In the second letter the branch advised that it would be making a submission in opposition on the notified application, and further details of key issues are expected to be outlined in the submission. The submission was received and has been reviewed as part of the 2012/2013 revised marina design project investigations.

Appendix V contains a recent letter to the Society advising of the 2013 revised marina layout and seeking any comments. The Council will be advised of any comments received.

4.13.3 Interested Parties

Waiheke Local Board

WML presented the earlier marina proposal to the former Waiheke Community Board in late 2009. WML continued to keep in contact with the former Board until it was replaced by the new Waiheke Local Board.

The Waiheke Local Board has a wider mandate in terms of responsibility for other islands, and different elected members. The project has been discussed with some Board members and a letter and plans were recently sent to the Board Chair.

Coastguard

The Waiheke Volunteer Coastguard currently operate from a small room in the existing Matiatia ferry terminal and keep their boat along the adjacent wharf. As part of the marina design, a berth and associated piles as well as space within the marina office are to be provided for use by the Coastguard.

Appendix V contains a letter from the Coastguard supporting the 2011 marina project and outlining the benefit of the marina for their operations. A letter has recently been sent to the Coastguard updating them on the 2013 project. It is also in **Appendix V**.

Ngai Tai ki Tamaki (Ngai Tai)

Ngai Tai have advised WML they have an interest in the marina project. Ngai Tai were contacted on the earlier project and in November 2010 provided a letter outlining a few issues. **Appendix V** contains a copy of the Ngai Tai letter.

The key issues from the 2010 response were as follows;

- Identification of several significant avoidance and mitigation measures in the project;
- Research to date has not identified any Ngai Tai cultural or spiritual concerns; and
- Koi iwi have been discovered in the Matiatia Bay area and recognised site development protocols are recommended

The latter issue is addressed in the TDE archaeological report and consent conditions are being proposed (Ref. Section 4.15).

WML have recently been contacted Ngai Tai regarding the revised 2013 marina layout (see **Appendix V**). The outcome of the recent consultation will be reported to the Council.

Ngati Whatua o Orakei

Ngati Whatua were contacted in late 2010 regarding the earlier marina proposal. **Appendix V** contains a letter from Ngati Whatua confirming that they will defer to local mana whenua with regards to the project. On this basis Ngati Whatua have not been contacted in regard to the 2013 revised marina design.

Auckland Yacht & Boating Association (AYBA)

The AYBA is the regional yachting association for the Auckland area. It acts as an advocate for boating clubs providing input into resource management matters.

The AYBA were first contacted in July 2010 and provided with copies of some draft plans and reports on the earlier marina layout. The AYBA forwarded information on the marina project to the Maritime Research Group (MRG) who provided a letter in response. The MRG response suggests an alternative marina location and design on the southern side of the bay. The MRG letter is in **Appendix V**, along with a subsequent reply from ASL outlining the reasons for the proposed marina on the northern side of the bay.

Appendix V contains a recent letter to the Association advising of the 2013 revised marina layout and seeking any comments. The Council will be advised of any comments received.

Hauraki Gulf and Waiheke Island Based Community Organisations

The following Hauraki Gulf or Waiheke Island based community organisations made submissions on the 2011 marina project.

- Gulf Anchorages Protection Society,
- Hauraki Gulf Enhancement Society,
- Open Space Environmental Protection Society
- Waiheke Community Planning Association.

They advised in February 2013 of the revised marina design. The Hauraki Gulf Forum was also advised at this same time. Any responses will be considered by WML and provided to the Council.

4.14 Consent Terms

Coastal Permit

WML are seeking a 35 year term for the activities in the coastal permit. This is the maximum allowed for coastal permits under the Act.

The maximum term is being sought on the basis that the marina structures are designed for a considerably longer life than 35 years. Also the most recently issued coastal permits for the Orakei and Sandspit marinas have 35 year terms.

District Plan Land Use Consent

The land use consent required under the district plan rules for the shore based marina facilities is expected to have an unlimited term as is generally the situation for these consents under the Act.

Stormwater Discharge Permit

WML are proposing a 35 year term for the stormwater discharge permit that is consistent with term being sought for the coastal permit.

4.15 Consent Conditions

Earlier in this report it has been proposed that certain aspects of the marina construction and operation be controlled or managed through resource consent conditions. Some monitoring proposals have also been identified based on recommendations in some of the technical reports.

The following is a 'summary' of the management and monitoring matters proposed to be addressed through consent conditions. The 'summary' is not an exhaustive one. It only covers particular effects matters raised in this report and/or the supporting technical reports. A number of other 'standard' conditions of an administrative nature are expected to be imposed by the Council.

Geotechnical Engineering & Natural Hazards

- Settlement monitoring of primary breakwater – Section 3.2.2
- Detailed engineering investigation and report on founding depth of bund in north western corner of reclamation – Section 3.2.4
- Compaction testing of reclamation fill material and supervision of fill operations by a geotechnical engineer – Section 3.2.4

Ecology & Water Quality

- Geotextile booms around dredging and reclamation areas to limit extent of turbidity – Section 3.3.11
- Visual 'trigger' based turbidity monitoring of dredging and reclamation activities – Section 3.3.11
- Bacteriological monitoring of water within the marina once operational - Section 3.3.11
- Sediment and shellfish trace metal monitoring of operational marina –Section 3.3.11
- Installation of stormwater treatment devices on reclamation and stormwater monitoring and maintenance plan – Section 3.3.11

Landscape & Visual Amenities

- Selection of breakwater rock armouring – Section 3.4.7
- Tinting of breakwater footpath to match rock armouring –Section 3.4.7
- Landscaping of the reclamation – Section 3.4.7
- Exterior colours and finishes of the floating office – Section 3.4.7

Cultural & Heritage Values

- Archaeologist inspection of reclamation intertidal area for possible remnant material before related construction commences – Section 3.5.3
- Protocol for accidental discovery of any unrecorded archaeological material or human remains – Section 3.5.3

Boat Navigation & Safety

- Construction exclusion zone in conjunction with Harbourmaster –Section 3.6.3
- Provision of navigation aids – Section 3.6.6
- Changes to leading light in conjunction with Auckland Transport & Harboumaster– Section 3.6.6

Public Access & Recreation

- Moorings management plan for affected mooring holders – Section 3.7.1
- Construction management plan re access to dinghy racks, moorings and boat ramp during reclamation build– Section 3.7.2
- Public access to the marina – Section 3.7.4
- Esplanade reserve on the reclamation – Section 3.7.5
- Boardwalk to historic reserve – Section 3.7.6

Traffic & Parking

- Disabled users parking spaces - Section 3.8.5
- Parking management plan –Section 3.8.6
- Informal loading arrangements rather than dedicated space – Section 3.8.8
- Construction traffic management plan – Section 3.8.9

Noise

- Compliance with regional coastal and district plan operating noise standards – Section 3.9.2
- Compliance with NZS 6803 construction noise standards - Section 3.9.3
- Rubber tyres on trolleys – Section 3.9.5
- Soft closing security gates – Section 3.9.5
- Marina rules on halyard slap and other matters – Section 3.9.5
- Monitoring of construction noise – Section 3.9.6

Lighting

- Reclamation area lighting plan - Section 3.10.2
- Marina piers lighting plan –Section 3.10.3

5 SUMMARY

The proposal by WML to establish a marina in Matiatia Bay is supported by extensive engineering design, environmental and planning assessments of the project. A series of detailed plans and reports have been prepared covering marina engineering, coastal processes, geotechnical, marina and utility services engineering, boat navigation and safety, archaeology, ecology/water quality, landscape, parking/traffic, noise and lighting.

This AEE report and those of a more technical nature in the accompanying appendices describe in detail the environmental effects of the proposed marina. They also outline how those effects which have the potential to be 'more than minor' can be effectively avoided or mitigated. The reports also outline some associated monitoring of effects to ensure that those of the nature predicted do occur and that relevant district or regional plan rules are met. The AEE report identifies the general nature of consent conditions the applicants are proposing to deal with identified environmental effects and monitoring issues.

This AEE covers the statutory planning framework surrounding the project. It identifies the key provisions in the RMA, along with relevant policy statements and plans. The rules of the plans under which the applications are expected to be considered are identified, along with the relevant assessment criteria. A preliminary assessment of plan objectives and policies has been provided.