KENNEDY POINT MARINA
WAIHEKE ISLAND

Navigation Risk Assessment and Safety Management Plan

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Navigation Risk Assessment and Safety Management Plan

This document is representative of Kennedy Point Marina Policy and Rules demonstrating Kennedy Point Boat Harbour Limited commitment to and vision for risk management conduct in relation to performance, integration with policies, processes and practices, oversight and assurance.

Signed	
Name	
Position	
Date	
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Version Control

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1.1	04 August 2023	Initial. Author: Deane Ingram, General Manager, Kennedy Point Marina

Contents

1. Introduction

1.1 Purpose

The purpose of this Navigation Risk Assessment and Safety Management Plan (**RASMP**) is:

a. To describe how the risks pertaining to navigation within Marina boundaries will be managed in order to provide for public safety, the maintenance of good seamanship and satisfy the requirements of the Conditions of Consent CST60082321-B;

b. To describe the practices, procedures, and controls to be applied to the management of navigation risk within Kennedy Point Marina; and

c. To demonstrate that risks to navigation will be effectively managed within the boundaries of Kennedy Point Marina.

Nothing in this RASMP shall exonerate any vessel, or the owner, master or crew thereof, from the consequences of any neglect to comply with the International Regulations for Preventing Collisions at Sea, New Zealand Maritime Transport Act 1994 and associated Maritime Rules, and local Bylaws.

In construing and complying with these Rules due regard shall be had to all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved, which may make a departure from RASMP necessary to avoid immediate danger.

1.2 Objectives

The objectives of this Navigation RASMP are to minimise adverse effects of differing vessels and marine activities occurring within the close confines of a marina whilst maximising the beneficial outcomes that a sheltered boat harbour provides for the whole community. This will be realised by achievement of the following specific objectives:

a. Promotion and application of a pro-active risk management culture throughout the Marina;

b. Accurate evaluation and ongoing effective management of identified risks;

c. Ongoing monitoring and review of the risk management process to ensure control mechanisms are maintained and improvement opportunities are identified, evaluated and developed; and

d. The implementation of controls across the Marina to promote safe navigation and reduce risk.

1.3 Scope

This Navigation RASMP specifies the approach to and conduct of risk management, encompassing the geographic boundaries of Kennedy Point Marina.

1.4 References

This Navigation RASMP has been developed with reference to:

- Conditions of Consent CST60082321-B;
- AS/NZS ISO 31000:2018 *Risk management – principles and guidelines;*
- New Zealand Maritime Rules Part 22: Collision Prevention (the NZ adoption of the COLREGs).
- New Zealand Maritime Rules Part 91: Navigation Safety Rules (NZ recreational boating rules).
- Auckland Council Navigation Bylaw 2021.
- Ministry of Transport Risk Management Template.
- Maritime NZ, Port & Harbour Safety Code: Key Principles for Marine Safety Risk Management.

1.5 Relationships to other Management Plans

Particular relationships exist with other Kennedy Point Marina key operational documentation as follows:

- **Marina Management Plan**. Section 6, Management of Public Access.
- **Marina Rules**. Clause 10: Recreational Activities. Clause 11: Control and Maintenance of Vessels.
- **Marina Management Policies**. Nil as that document relates to other features of the Berth Licence and the financial management of the Marina, such as short-term berth rentals, the allocation of operating expenses amongst berths, and the refurbishment fund.
- **Marina Berth Licence**. Nil as that document provides the legal contractual basis between the Marina and a berth holder with respect to the licenced water space of the berth holder and the marina provided services.

2. Roles and Responsibilities

2.1 Board of Directors

The Kennedy Point Marina Board is responsible for:

a. Defining and enforcing the Risk Management Policy;
b. Approving and sponsoring this RASMP;
c. Providing strategic governance and risk leadership to this RASMP;
d. Verifying the appropriate management of risk and the application of good risk management practice as an integral part of RASMP execution; and
e. Allocating appropriate resource to undertake risk management activities.

2.2 Marina Management Team

The Marina management team is responsible for:

a. Supporting the Kennedy Point Marina Board in the development and implementation of the Risk Management Policy;
b. Developing, implementing and maintaining the RASMP and associated processes;
c. Communicating significant risks to the Kennedy Point Marina Board, berth holders and relevant stakeholders as appropriate;
d. Monitoring the effective implementation of this RASMP;
e. Implementing the Safety Actions and Risk Controls as identified in this RASMP;
f. Demonstrating leadership in, and acting as the focal point for risk management; and
g. Driving best practice and continuous improvement through the provision of facilitation, training and guidance.

2.3 Marina Users

Marina Users are responsible for:

a. Accepting ownership of risks, where appropriate;
b. Applying the directed risk treatment activities as required; and
c. Highlighting any risk management improvements where the need to do so is identified.

2.4 Sub-consultants/Sub-contractors

Sub-consultants and sub-contractors will be expected to participate in risk management processes as appropriate to aid delivery and contractual compliance.

Sub-consultants and sub-contractors will be expected to participate in risk workshops and reviews as appropriate. This endeavours to facilitate a well-rounded review and discussion of risk from all delivery partners.

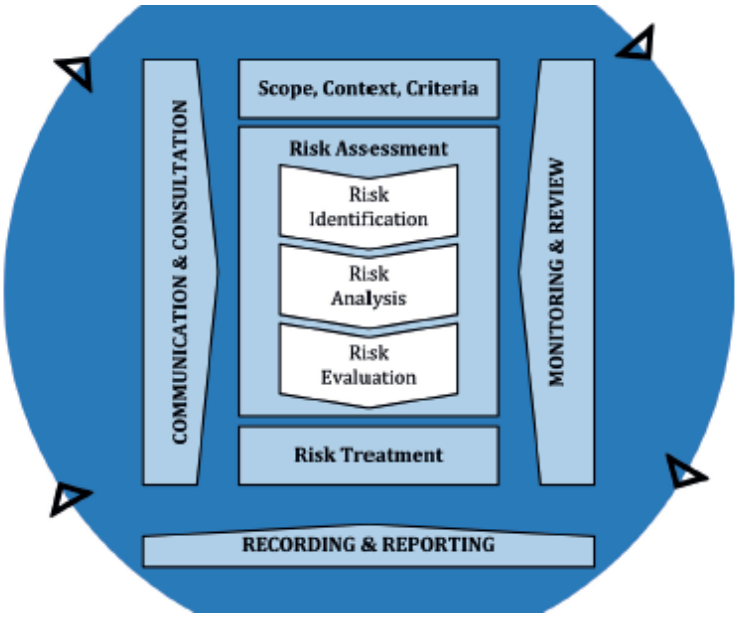
2.5 General Public

Kennedy Point Marina recognises the important role played by the general public as users of the Marina environment. Education and promotion of risk treatment plans will be actively highlighted to the public to facilitate their adherence.

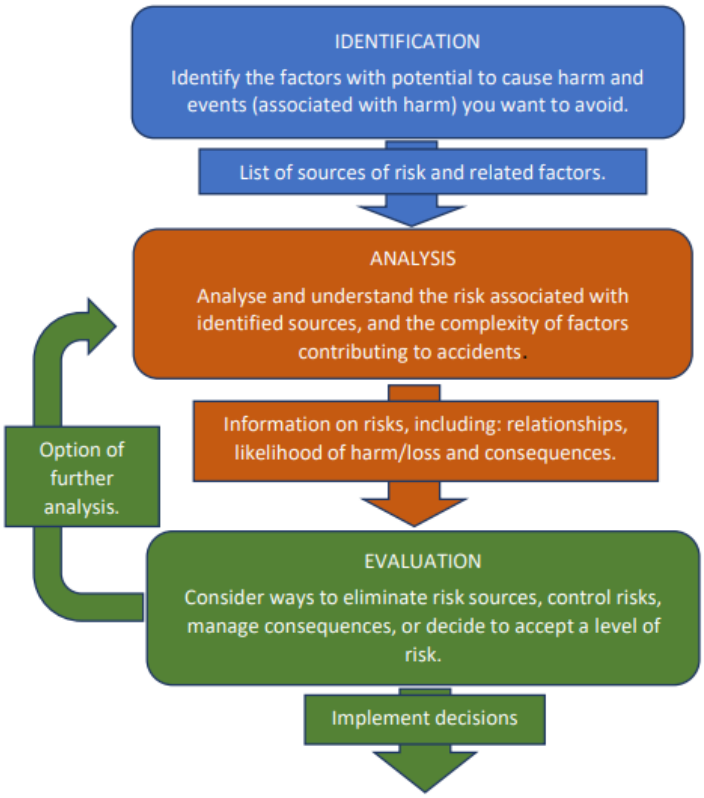
3. Risk Management Process

3.1 Overview

AS/NZS ISO 31000:2018 summarises the key steps of the risk management process. This process is a systematic approach applicable to all aspects of risk management; from governance to task level activity. Kennedy Point Marina has utilised this process within this RASMP.



AS/NZS ISO 31000:2018 Risk management process



Schematic of the risk assessment process
[Source: MNZ: Key Principles for Marine Safety Risk Management]

3.2 Scope, Context, Criteria

The purpose of establishing the scope, the context and criteria is to customise the risk management process, enabling effective risk assessment and appropriate risk treatment. Scope, context and criteria involve defining the scope of the process and understanding the external and internal context.

Kennedy Point Marina is a boat harbour located on the south side of Waiheke Island in Kennedy Point Bay, in the Hauraki Gulf, Auckland. Protected by floating attenuators and configured to provide sheltered berths to vessels up to 30m in length, the navigable water within Kennedy Point Marina is confined and comprises a series of narrow channels behind two main fixed structures.

Marina Coastal Occupation Consent CST60082321-B allows for public access by vessel at any time within the Marina Navigation Area (Area 8), except that with the approval of the Auckland Council Consents Team Leader, the Marina may from time to time implement access measures and restrictions to ensure the health and safety of the public, the proper operation of the marina facilities and the security of berth holders' vessels.

Adjacent to the Marina internal navigable waters is Kennedy Point Bay beach and public amenities. This allows for public access to the beach for swimming and water based recreation activities including the launch, recovery and utilisation of small vessels.

Auckland Council
CST60082321-B
Approved Resource Consent Plan
29/06/2020

KENNEDY POINT MARINA
WAIHEKE ISLAND

KENNEDY POINT BOATHARBOUR LIMITED
KENNEDY POINT MARINA
WAIHEKE ISLAND
OCCUPATION ZONES
KP-16
REV. 5

KEY	ZONE	DESCRIPTION	CONDITION
	1	SOUTHWEST BREAKWATER	112 (a)
	2	MARINA BERTHAGE	112 (b)
	3	MARINA OPERATIONS	112 (c)
	4	PUBLIC ACCESS AREAS	112 (d)
	5	MARINA BUILDINGS	112 (e)
	6	PUBLIC PICK-UP / DROP-OFF	112 (f)
	7	PUBLIC DAY BERTHAGE	112 (g)
	8	MANAGED NAVIGATION AREA	112 (h)

3.3 Risk Identification

Risk identification comprises a wide range of techniques that may be utilised:

- **Checklists:** Review of generic and/or activity specific risk themes.
- **Workshops/reviews:** Formal multi-disciplinary forums that take the form of either 'blue sky' thinking or focused review of existing data. Participants are selected based on attendance requirements relative to maximising outcomes from the degree of involvement and time spent.
- **Interviews:** Used on a selective basis to elicit information from specialist personnel.
- **Experience based reviews:** Review of previous projects and/or comparative businesses undertaken.
- **Ad-hoc:** Team identification of risks during business execution.

Once risks have been identified, they are listed in a risk inventory as a vital component of risk management. Unless it is known exactly what is being managed, it will not be possible to identify other sources of risk that may exist.

Kennedy Point Marina identified risks and grouped them into risk cause categories so that appropriate risk treatment plans could be developed in a structured manner allowing for multiple risks to be mitigated with the same strategy creating efficiencies. The Risk Cause Categories in alphabetical order are:

- **Collision:** An event that involves unintended contact between a vessel and either another vessel (including kayak, jet ski, Stand up Paddle Board, etc.) or object (marina structure, log, etc.), which may or may not be moving.
- **Contact:** The act of a vessel contacting a fixed object (marina structure, etc.) through deliberate action.
- **Environmental:** Any event, meteorological, tidal or geological incident which may have an effect on operations, but which is outside those experienced in normal daily operations (including wind gusts, restricted visibility, tsunami, earthquake, predators, biosecurity issues, etc.), especially those events that may cause damage to the Marina, or causes increased traffic in the vicinity of the Marina as vessels seek shelter.
- **Equipment Failure:** The failure of equipment or associated items required for the safe operation of the Marina (including aids to navigation failure, communication equipment breakdown, etc.) or vessel equipment failure related to its ability to operate in a safe navigable manner.
- **Fire/Explosion Underway:** A fire or explosion whilst the vessel is underway within the Marina's navigable waters.
- **Grounding:** The unintentional or inappropriate grounding of a vessel.
- **Human Factors:** Events related to a person arising from human factors/errors/decisions (including lack of training, personal issues, medical conditions, lapse of concentration, commercial pressure, alcohol, drugs, etc.).
- **Interaction:** An event relating to the effects a vessel or object has upon another vessel or object (stationary or moving), without contact.
- **Loss of stability/sinking:** Dangerous list/heel angle due to poor vessel load distribution, and/or water ingress/sinking.
- **Mooring breakout:** Potentially includes swing moorings as well as boats breaking free from Marina berths.
- **Personal Injury:** An event that may result in harm.

Risks were grouped by category are detailed in the following table:

Navigable Safety Identified Risks	Risk Cause Category										
	Collision	Contact	Environmental	Equipment Failure	Fire / Explosion Underway	Grounding	Human Factors	Interaction	Loss of stability/sinking	Mooring breakout	Personal Injury
Power driven vessel collides with Marina structure	◊		◊	◊			◊	◊	◊	◊	
Power driven vessel collides with another vessel	◊		◊	◊			◊	◊	◊	◊	
Power driven vessel collides with swimmer / water toy	◊		◊	◊			◊	◊	◊	◊	
Vessel under sail collides with Marina structure	◊		◊	◊			◊	◊	◊	◊	
Vessel under sail collides with another vessel	◊		◊	◊			◊	◊	◊	◊	
Vessel under sail collides with swimmer / water toy	◊		◊	◊			◊	◊	◊	◊	
Paddle Craft collides with Marina structure	◊		◊	◊			◊	◊	◊	◊	
Paddle Craft collides with another vessel	◊		◊	◊			◊	◊	◊	◊	
Paddle Craft collides with swimmer /water toy	◊		◊	◊			◊	◊	◊	◊	
Power driven vessel becomes unstable / sinks			◊	◊			◊	◊	◊		
Vessel under sail becomes unstable / sinks			◊	◊			◊	◊	◊		
Paddle Craft becomes unstable / sinks	◊		◊	◊	◊	◊	◊	◊	◊	◊	◊
Vessel wake cause damage or risk of injury							◊	◊			
Vessel deliberately driven into another vessel or Marina structure		◊					◊				
Vessel deliberately anchored in fairways to obstruct safe navigation		◊					◊				
Vessel deliberately moored to Marina structure (including navigation marks) in an unsafe manner or in a manner intended to disrupt safe navigation		◊					◊				
Attended vessel floating around Marina in an unsafe manner or in a manner intended to disrupt safe navigation		◊					◊				
Unattended vessel breaks free floating around Marina	◊		◊	◊		◊			◊	◊	
Vessel grounds on foreshore unintentionally either through deliberate action or other cause	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	
Vessel takes on dangerous list/heel angle due to poor vessel load distribution, and/or water ingress/sinking.	◊	◊	◊	◊			◊		◊		
Vessel sinks in Marina.	◊	◊	◊	◊	◊	◊	◊		◊	◊	
Person suffers injury during vessel handling / docking	◊	◊		◊			◊	◊			◊
Person suffers medical incident whilst on a vessel							◊				◊
Swimmer injury/entanglement in Marina structure, vessel moorings							◊				◊
Diver injury/entanglement in Marina structure, vessel moorings							◊				◊
Person falls off vessel/pontoon/into water							◊				◊
Oil/petrol/diesel/chemical spill	◊	◊	◊	◊	◊	◊	◊		◊	◊	
Accidental black water discharge			◊	◊			◊				

Navigable Safety Identified Risks	Risk Category										
	Collision	Contact	Environmental	Equipment Failure	Fire / Explosion Underway	Grounding	Human Factors	Interaction	Loss of stability/sinking	Mooring breakout	Personal Injury
Marine Mammal interaction causing damage to structure, vessels or injury (i.e., mammal bites)			◊	◊							◊
Marine Mammal activity within the Marina navigable waters			◊								
Bird interaction affecting people and/or vessel movement			◊								◊
Inclement weather/high winds/wind gusts/swell/surge/lightning			◊				◊				
Restricted visibility/fog/heavy rain/night conditions			◊				◊				
Tsunami (6hr warning)			◊				◊				
Natural disaster: Volcanic explosion, earthquake, Tsunami (no warning)			◊								
Large amounts of weeds/seaweed/logs floating within the Marina navigable waters			◊				◊				
Sabotage/ Security breach/ vandalism/ theft		◊					◊				
National legislation/ Bylaws/ Maritime Rules infringed by boaties							◊				
Winged Aircraft operating in Marina (unsafe to do so)							◊				
Helicopter operating in Marina							◊				

3.4 Risk Analysis

Risk is a combination of the likelihood and consequences of hazards. For each hazard, there are likely to be a range of possible scenarios and associated consequences. The purpose of a risk analysis is to determine the range and complexity of consequences to be managed, the likelihood that they will occur, and to have this information available for risk evaluation and decision-making.

3.4.1 General Approach

To gain a full picture of risks posed by a hazard or event and establish priorities to improve risk management measures, the General Approach utilised by Kennedy Point Marina is based on specialist interpretation of a scenario allowing for the exploration of a range of events that could happen in that area in a standardised way. This approach provides a platform for a common understanding of likelihood, consequences and risks. Because each hazard can give rise to events of varying consequence scale, from insignificant to catastrophic, the use of hazard scenarios can assist with determining the risk level, and the required risk management measures.

The following scale of scenarios in descending order (from highest consequence to lowest) is noted:

- **Outlier event:** Considered to be a statistical outlier that cannot reliably be predicted. These are extremely rare and could have catastrophic consequences that would be unmanageable, or even difficult to comprehend (e.g. volcanic eruption in Auckland city). Due to the limited ability to predict extreme events, they are unlikely to be useful for risk assessment purposes.
- **Maximum credible event (MCE):** Possible, worst-case events, likely to be associated with significant consequences. Events must be realistic, even if highly unlikely, and be underpinned by a degree of expert knowledge on what magnitude of event is possible.

- **Most likely/mid-range event:** Describes an event or series of events which have a higher likelihood of occurrence than the MCE and are likely to require a co-ordinated response by Marina staff and external parties.
- **Routine or regular events:** Frequently occurring events that are managed as a 'business as usual' or routine activity and result in largely negligible consequences.

Likelihood describes the probability of a particular scale and intensity of a hazard or event scenario occurring in a given location. In this RASMP, Likelihood is communicated in a qualitative manner using descriptors such as "rare", "unlikely" or "almost certain" with quantitative time periods indicated for analytical purposes.

Estimates of likelihood will vary for different hazard types such as environmental, technological and human-factor hazard types. Under an 'all-hazards' approach, a wide variety of hazards need to be considered. These range from those with well-established and relatively well understood phenomena (e.g., storms), through to rare and uncertain hazards (e.g., tsunami and large earthquakes) and hazards which are undergoing rapid change (e.g., community acceptance of the Marina).

For many hazards such as severe weather, which is likely to increase due to climate change, the rapid pace of change means that even well-categorised historical information provides little relevant and robust information to the present situation and makes it difficult to calculate likelihood with certainty. This is further complicated where the likelihood of a hazard is expected to change over time. In such cases, it may be appropriate to rely more on expert opinion and a semi-quantitative estimation of likelihood rather than attempting to gather sparse quantitative data.

Uncertainty and best judgement. Best judgement (including expert advice) may be required where there is insufficient data or evidence to determine a reliable estimate of likelihood.

Consequence describes the outcome and effects of a hazard scenario. Consequences are a measure of impacts to the things we care about, and generally relate to significant outcomes e.g., human wellbeing, damaged infrastructure and lost economic productivity. As with likelihood, consequences can be measured quantitatively (e.g., number of injuries, monetary value) or qualitatively as a category (e.g., Insignificant, Minor, Moderate, Major) assessed through descriptive statements. Consequences are those impacts that are expected based on the current conditions and taking into account the current risk management measures in place.

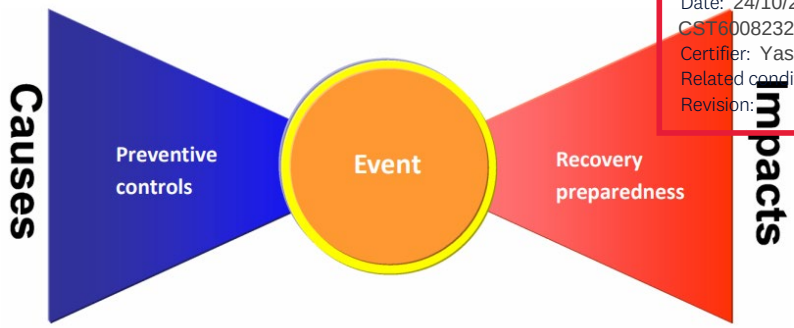
The degree of consequences may be difficult to determine based on available information. While it is not essential to gain a precise measure of consequences for each element, the assessment should indicate the relative scale of consequence per element.

The consequence and resultant risk level (when combined with scenario likelihood) for each element assessed provide a useful platform for evaluating whether individual risks are acceptable and what treatments might be appropriate.

Overall consequences. As the Kennedy Point Marina Risk Matrix has a number of impact factors each with their own consequence, an average of the overall consequence score is used to view the overall impact of a hazard scenario. It should be noted however that in order to leverage the granular nature of the risk analysis process and the rich contextual information related to each element, evaluation of treatment options is also undertaken by reviewing individual elements across all scenarios in order to consider the worst possible impact for a given scenario.

3.4.2 Advanced Approach

The Bowtie method can be utilised as the Advanced Approach to analyse the selected frequent events as it puts emphasis on the linkage between risk controls and the management system. It can help to ensure that risks are truly managed, rather than just analysed. It forces the undertaking of a comprehensive and structured approach.



Bowtie analysis showing Causes (Blue) as the effectiveness of preventative controls, Event (centre) and Impacts (Red) in comparison to the preparedness to recover quickly from the event.

Event – what is the risk?

Cause – what could cause the risk to happen?

Impact – how can the event develop? What are the worst outcomes?

3.4.3 Risk Rating

Risk Ratings are derived from likelihood and consequence in a Risk Matrix. A standard 5 x 5 Risk Matrix has been utilised. Using the values assigned to consequence and likelihood, a Risk Rating was obtained with the factor scaled from 1 (Low risk) to 30 (Very High risk) as per the Risk Matrix below. Note: in order to provide a mathematical distinction of Very High Risks with high catastrophic consequences, a factor of 6 has been utilised instead of 5 for 'catastrophic'.

Risk Rating Significance. The As Low As Reasonably Practicable (ALARP) principle is applied to reflect that there may be a number of risks that should only be tolerated if risk control measures in place provide risk reduction into the ALARP region. If risk ratings cannot be reduced into the ALARP region without excessive cost or disruption, the risk requires urgent review and the operation may need to cease.

3.5 Risk Evaluation

3.5.1 Prioritisation

Risk evaluation will be used to determine which risks are to be treated, and to define the prioritisation for treatment.

Kennedy Point Marina places more attention on those risks of high frequency that may well have a history of near misses, but could potentially have high consequences. Applying a focus on the recreational boating community considering the local environment and range of harbour traffic, where likelihood may be much higher than a commercial vessel, this emphasis on frequent events as opposed to directing a major effort only at the relatively few events with significant consequences, means there are many opportunities that provide a much larger or wider impact for more effective control of risks.

3.5.2 Risk Tolerance Threshold

Kennedy Point Marina as a recreational industry enabler is risk averse and therefore takes a conservative approach in its approach to accepting higher risks with higher rating. In particular, Kennedy Point Marina is cognisant of its Social Licence in that "good practice risk management gives due consideration to community expectations about safety and what is acceptable".

Social Licence: Often, ports and harbours operate under a "Social Licence". That licence may have (implied) conditions associated with it and the risk management approach needs to anticipate and manage them. The concept includes the extent to which certain things and values are protected. The scope is wide, covering the effect on people (directly or indirectly), the natural environment, economy, property and reputation. It does not

have a technical definition but with respect to Kennedy Point Marina, events such as: loss of life, damage to the environment and incidents involving wildlife are particularly unacceptable.

When conducting risk assessments and making decisions on safety and action plans, which increase the profile of Social Licence, factors of note are:

- The culture and risk attitude of those involved (both in the factors potentially causing harm and dealing with the impacts).
- Changing attitudes in society.
- Proliferation of social media, cell phones, and “influencers”.

3.6 Kennedy Point Marina Risk Assessment Matrix

Risk Outcome	Risk Rating	Action
Low	Score 4 or less	Risks managed by current controls and procedures
Medium	Score between 5 and 10	Risks will have proactive treatment plans in place to review and manage the risk
High	Score between 11 and 15	Risks will have proactive treatment plans in place to lower the risk
Very High	Score higher than 16	Proactive strategies to eliminate/avoid risk will be applied

LIKELIHOOD	Is expected to occur, e.g., more than once a year.	***Almost certain***	**5**	Medium - 5	Medium - 10	High - 15	Very High - 20	Very High - 30
	Will probably occur, e.g., once every 3 years.	***Likely***	**4**	Low - 4	Medium - 8	High -12	Very High - 16	Very High - 24
	Might occur, e.g., once every 10 years.	***Possible***	**3**	Low - 3	Medium - 6	Medium - 9	High - 12	Very High - 18
	Could occur, e.g., once every 30 years.	***Unlikely***	**2**	Low - 2	Low - 4	Medium - 6	Medium - 8	High - 12
	Exceptional circumstances, e.g., every 50 years.	***Rare***	**1**	Low - 1	Low - 2	Low - 3	Low - 4	Medium – 6

	CONSEQUENCE				
	Insignificant	***Minor***	***Moderate***	***Major***	***Catastrophic***
	1	**2**	**3**	**4**	**6** **6 used to emphasise the level of catastrophic**
Safety – personnel and public	• Insignificant injury, e.g., first aid	• Minor injury resulting in lost time at work or rest/recuperation required.	• Injury requiring doctors attention required	• Serious injury, e.g. hospital attention required	• Fatality or multiple serious injury
Operational capability – the ability to use the Marina functions/tools/services	• Insignificant loss/delay of an operational capability • Time loss < 24hours.	• Minor loss or delay of an operational capability • Time loss < 1 week.	• Moderate loss/delay of an operational capability • Time loss < 1 month.	• Major loss/delay of an operational capability • Time loss < 3 months.	• Catastrophic loss/delay of an operational capability • Time loss 3 months or greater.
Property & assets	• Critical buildings available – ‘business as usual’ issues only	• Critical buildings / assets unavailable for up to 2 days	• Critical buildings / assets unavailable for up to 1 week	• Critical buildings / assets unavailable for up to 1 month	• Critical buildings / assets unavailable for >1 month
Environment – includes the release of rubbish/debris and/or eco-toxic substances	• Minor release of pollutants with no environmental harm	• Minor release of pollutants with negligible impact on environment, resolved with Marina resources	• Moderate release of pollutants having an impact on the environment lasting up to 1 month and/or requiring external resources to clean and resolve	• Major release of pollutants having an eco-toxic impact on the environment lasting 1 to 3 months and/or requiring external resources to clean and resolve	• Catastrophic release of pollutants having an eco-toxic impact on the environment lasting greater than 3 months and requiring external resources to resolve
Staff Personnel	• Issues raises to and resolved by manager as ‘business as usual’	• Low level of personnel turnover which can be accommodated by ‘business as usual’ • Isolated discontent resolved by manager • Intermittent unavailability of some capability	• Employment relation matter • Unavailability of critical skills which impacts key deliverables for 3 to 6 months.	• Unavailability of critical skills which impacts key deliverables for 6 to 12 months.	• Unavailability of critical skills which impacts delivery of critical services for a prolonged period
Stakeholder confidence / Reputation	• Isolated complaints	• Adverse local media • Local complaints	• Local political criticism • Adverse national media • Widespread complaints	• National political focus • High-profile adverse media • Major stakeholder concern	• National political censure • Extensive adverse media • Loss of stakeholder support
Financial	• Unbudgeted expenditure or foregone revenue <$5,000 • Transactional errors <$1,000	• Unbudgeted expenditure or foregone revenue $5,000 to $20,000 • Transactional errors $1,000 to $5,000	• Unbudgeted expenditure or foregone revenue $20,000 to $100,000 • Transactional errors $5,000 to $10,000	• Unbudgeted expenditure or foregone revenue $100,000 to $1M • Transactional errors $10,000 to $25,000	• Unbudgeted expenditure or foregone revenue >$1m • Transactional errors >$25,000
Information security / ICT infrastructure	• Negligible impact on confidentiality, system integrity or information availability	• Loss of confidentiality, system integrity or information availability which could have a noticeable adverse effect on operations, assets or people	• Loss of confidentiality, system integrity or information availability which has a serious adverse effect on operations, assets or people, lasting up to 1 month	• Loss of confidentiality, system integrity or information availability which has a serious adverse effect on operations, assets or people lasting greater than 1 month	• Loss of confidentiality, system integrity or information availability which has a catastrophic adverse effect on operations, assets or people and requires considerable infrastructure change/replacement
Privacy	• Inappropriate exposure of personal information – local, isolated incident, limited content	• Inappropriate exposure of personal information – local, isolated incident, comprehensive content	• Inappropriate exposure or sharing of personal information – wider audience of partners or repeated incidents, comprehensive content	• Inappropriate exposure or sharing of personal information – wide spread dissemination, comprehensive content	• Exposure or sharing of information to the public domain through loss or theft
Contracts & services	• Negligible breach of contract • Remedied immediately • No impact on contracted services	• Minor breach of contract • Remedied immediately • Minimal impact on contracted services	• Failure to carry out contracted services • Operational capability impacted • Some financial impact	• Consistent failure to carry out contracted services • Ongoing impact on operational capability	• Legal dispute • Operational capability seriously compromised • Significant financial impact

			• Some impact to supplier relationships	• No alternative available • Strained supplier relationships	
Regulatory / compliance	• Isolated breach of legislation • No regulatory impact	• Breach of legislation • Informal warning from regulator	• Breaches of legislation • Formal sanctioning from the regulator • Criminal prosecution punishable by fine • Fine up to $100,000 for failure to comply with legal, regulatory or contractual requirements	• Multiple breaches of legislation • Restrictions placed on operation response • Criminal prosecution punishable by suspended sentence • Fine between $100,000 - $500,000 for failure to comply with legal, regulatory or contractual requirements	• Sustained breaches of legislation • Criminal prosecution punishable by imprisonment

3.7 Risk Treatment

The type of treatment to be applied to a risk will be selected from the following:

THREAT
Eliminate / Avoid - Identifying actions to eliminate the threat such as withdrawing from the activity.
Minimise - Taking action to reduce the likelihood or consequence of the threat to an acceptable level.
Fall-back - Putting in place a fall-back or contingency plan of actions that will be taken to reduce the consequence of the threat should the uncertain (risk) event occur. Reserved for events that are highly unlikely to occur and/or completely unable to predict e.g., Natural disaster.
Transfer- A third party takes on responsibility for some of the financial impact of the threat e.g. insurance.
Share - Where the risk is shared with another party e.g., where both parties have a commitment to engage and manage the risk. E.g., Navigational safety is the responsibility of both the Marina and Harbourmaster.
Accept - Retaining the threat by informed decision if the risk level is tolerable.

Risk owners will be responsible for the management of treatment actions against owned risks, including the allocation of resource, conduct of cost/benefit trade off and integration within the programme of work.

3.7.1 Risk Treatment Controls

Treatment for each risk is delivered through “Controls”, both proactive and reactive, ensuring incorporation of same in resourcing and programming. Proactive Control activity against identified risks will be recorded in the risk register as a treatment action.

In developing Controls, risk treatment strategies are developed in order to leverage off opportunities for efficiencies and increased effectiveness through complimentary lines of activity.

The common suite of controls that Kennedy Point Marina will utilise are:

- The application of, promulgation and adherence to, published rules and procedures designed to mitigate known risks.
- Marina contingency / emergency plans that have sufficient response equipment readily available for use by trained staff.
- Public education through signage, online communications (social media, emails, website), and print media.
- Public education through face to face intervention via Marina staff having polite educational discussions with Marina users.
- If required: Formal intervention through the assistance of the Harbourmaster or Police.

The following table draws links between the Risk Cause Category and applicable Risk Controls that can be applied.

Navigable Safety Risk Causal Category	Risk Control				
	Rules and Procedures	Contingency / emergency plans	Public Education (written)	Public Education (face to face)	Formal Intervention
Collision	◊	◊	◊	◊	
Contact	◊	◊	◊	◊	◊
Environmental	◊	◊	◊	◊	◊
Equipment Failure		◊	◊	◊	
Fire / Explosion Underway		◊	◊	◊	◊
Grounding		◊	◊	◊	◊
Human Factors	◊	◊	◊	◊	◊
Interaction	◊	◊	◊	◊	
Loss of stability/sinking	◊	◊	◊	◊	◊
Mooring breakout	◊	◊	◊	◊	
Personal Injury	◊	◊	◊	◊	

3.8 Monitoring and Review

3.8.1 Process monitoring and review

Monitoring of the application of risk processes, good practice and compliance to consent requirements for risk management will be carried out by the Marina Management Team. Continuous monitoring and improvement is critical to successful risk management; where deviations are identified (from changes to the operating environment, or new emerging opportunities) the Marina Management Team will instigate risk treatment improvement actions.

Additionally, the Marina Management Team will conduct a review of the Risk Management Register and treatment strategies annually. The review is intended to identify and confirm:

a. Compliance with legislation, bylaws and the Resource Consent.

b. Compliance with this RASMP.

c. Delivery of good practice.

Outcomes from the review will be made available to the Board of Directors and notified to all Marina staff following conduct of the review.

3.8.2 Risk Monitoring and Review

In addition to the annual review, the Marina Management Team will be responsible for ongoing monitoring and review of owned risks, the conduct and effectiveness of associated treatments and currency of related data.

The Marina Manager will be responsible for monitoring the content of the risk register to ensure currency of data and the identification and notification of risk owners requiring to update owned data.

3.9 Communication and Consultation

Key to effective risk management is proactive communication and consultation. The Marina Management Team will ensure that a collaborative approach is taken regarding liaison with both internal and external stakeholders. By maintaining timely and open communications the Marina Management Team will ensure a value adding flow of risk related information occurs in terms of risk context, identification of risks and changes to these, and aid in identifying and evaluating options for the treatment of risk whilst demonstrating a customer first ethos.

4. Risk Records

4.1 Risk Register

Kennedy Point Marina will maintain a formal risk register reflecting the application of the approach to analysis as defined in this RASMP and in accordance with the best practice specified in AS/NZS ISO 31000:2018.

Management of the risk register will be the responsibility of the Kennedy Point Marina General Manager.

Superseded versions of the risk register will be retained for audit purposes.

5. Training

5.1 Training

The Marina Management Team will establish a programme of risk management training for Marina staff.

The objectives of the training will be:

a. To provide an overview and impart understanding of risk management concepts, processes and benefits, and:

b. To highlight and reinforce identified risks and treatment strategies in place.

Training records will be maintained.

Appendix A: Kennedy Point Marina Navigation Summary Risk Analysis Report

LIKELIHOOD			
	Is expected to occur, e.g. more than once a year.	*Almost certain*	5
	Will probably occur, e.g. once every 3 years.	*Likely*	4
	Might occur, e.g. once every 10 years.	*Possible*	3
	Could occur, e.g. once every 30 years.	*Unlikely*	2
	Exceptional circumstances, e.g. every 50 years.	*Rare*	1

	Raw						Treated				
Navigable Safety Identified Risks	Likelihood Score	Consequence Score	Risk Rating Score	Risk Rating Outcome	Treatment	Action Plan	Likelihood Score	Consequence Score	Risk Rating Score	Risk Rating Outcome	Acceptable Yes / No
Power driven vessel collides with Marina structure	4	1	4	Low	Minimise	Marina Rules, Speed Limits, Education, Signage, as required assist with Marina Tender	3	1	3	Low	Yes
Power driven vessel collides with another vessel	3	2	6	Medium	Minimise	Marina Rules, Speed Limits, Education, Signage, as required assist with Marina Tender	3	2	6	Medium	Yes
Power driven vessel collides with swimmer / water toy	2	3	6	Medium	Minimise	Marina Rules, Speed Limits, Education, Signage, as required assist with Marina Tender	2	2	4	Low	Yes
Vessel under sail collides with Marina structure	4	1	4	Low	Eliminate/Avoid	Ban sailing within Marina	3	1	3	Low	Yes
Vessel under sail collides with another vessel	4	2	8	Medium	Eliminate/Avoid	Ban sailing within Marina	3	2	6	Medium	Yes
Vessel under sail collides with swimmer / water toy	3	3	9	Medium	Eliminate/Avoid	Ban sailing within Marina	3	3	9	Medium	Yes
Paddle Craft collides with Marina structure	5	1	5	Medium	Minimise	Marina Rules, Speed Limits, Education, Signage, as required assist with Marina Tender	3	1	3	Low	Yes
Paddle Craft collides with another vessel	5	1	5	Medium	Minimise	Marina Rules, Speed Limits, Education, Signage, as required assist with Marina Tender	3	1	3	Low	Yes
Paddle Craft collides with swimmer /water toy	3	2	6	Medium	Minimise	Marina Rules, Speed Limits, Education, Signage, as required assist with Marina Tender	3	2	6	Medium	Yes
Power driven vessel becomes unstable / sinks	3	3	9	Medium	Fall-back	Response/Recovery in accordance with Marina Emergency Response Plan, advise Hbrmstr	3	3	9	Medium	Yes
Vessel under sail becomes unstable / sinks	3	3	9	Medium	Eliminate/Avoid	Ban sailing within Marina	2	3	6	Medium	Yes
Paddle Craft becomes unstable / sinks	5	1	5	Medium	Fall-back	As required intervene with Marina Tender, portable pump	3	1	3	Low	Yes
Vessel wake cause damage or risk of injury	4	2	8	Medium	Minimise	Marina Rules, Speed Limits, Education, Signage, as required intervene with Marina Tender	3	2	6	Medium	Yes
Vessel deliberately driven into another vessel or Marina structure	3	3	9	Medium	Minimise	Marina Rules, Education, Signage, as required intervene with Marina Tender, Police/Hbrmstr	2	3	6	Medium	Yes
Vessel deliberately anchored in fairways to obstruct safe navigation	3	2	6	Medium	Minimise	Marina Rules, Education, Signage, as required intervene with Marina Tender, Police/Hbrmstr	2	2	4	Low	Yes
Vessel deliberately moored to Marina structure (including navigation marks) in an unsafe manner or in a manner intended to disrupt safe navigation	3	2	6	Medium	Minimise	Marina Rules, Education, Signage, as required intervene with Marina Tender, Police/Hbrmstr	2	2	4	Low	Yes
Attended vessel floating around Marina in an unsafe manner or in a manner intended to disrupt safe navigation	3	2	6	Medium	Minimise	Marina Rules, Education, Signage, as required intervene with Marina Tender, Police/Hbrmstr	2	2	4	Low	Yes
Unattended vessel breaks free floating around Marina	3	1	3	Low	Minimise	Regular mooring line checks by staff. As required intervene with Marina Tender	2	1	2	Low	Yes
Vessel grounds on foreshore unintentionally either through deliberate action or other cause	3	3	9	Medium	Fall-back	Response/Recovery in accordance with Marina Emergency Response Plan, advise Hbrmstr	3	3	9	Medium	Yes
Vessel takes on dangerous list/heel angle due to poor vessel load distribution, and/or water ingress/sinking.	3	2	6	Medium	Fall-back	As required intervene with Marina Tender, portable pumps	3	2	6	Medium	Yes
Vessel sinks in Marina.	4	3	12	High	Fall-back	Response/Recovery in accordance with Marina Emergency Response Plan, advise Hbrmstr	4	3	12	High	Yes
Person suffers injury during vessel handling / docking	4	3	12	High	Fall-back	Response/Recovery in accordance with Marina Emergency Response Plan	4	3	12	High	Yes
Person suffers medical incident whilst on a vessel	4	3	12	High	Fall-back	Response/Recovery in accordance with Marina Emergency Response Plan	4	3	12	High	Yes
Swimmer injury/entanglement in Marina structure, vessel moorings	3	1	3	Low	Minimise	Marina Rules, Education, Signage, as required intervene with Marina Tender, Police/Hbrmstr	2	1	2	Low	Yes
Diver injury/entanglement in Marina structure, vessel moorings	2	1	2	Low	Minimise	Marina Rules, Education, Signage, as required intervene with Marina Tender, Police/Hbrmstr	2	1	2	Low	Yes
Person falls off vessel/pontoon/into water	5	1	5	Medium	Minimise	Marina Rules, Education, Signage, Safety Equipment on Piers	3	1	3	Low	Yes
Oil/petrol/diesel/chemical spill	4	2	8	Medium	Minimise	Marina Rules, Education, Signage, Response Equipment on Piers	4	2	8	Medium	Yes
Accidental black water discharge	4	1	4	Low	Minimise	Marina Rules, Education, Signage, Response Equipment on Piers	4	1	4	Low	Yes
Marine Mammal interaction causing damage to structure, vessels or injury (i.e. mammal bites)	2	3	6	Medium	Fall-back	Education, Signage, advise DoC	2	3	6	Medium	Yes
Marine Mammal activity within the Marina navigable waters	5	1	5	Medium	Fall-back	Education, Signage, advise DoC	5	1	5	Medium	Yes
Bird interaction affecting people and/or vessel movement	4	2	8	Medium	Fall-back	Education, Signage, use Bird deterrents, advise DoC	4	2	8	Medium	Yes
Inclement weather/high winds/wind gusts/swell/surge/lightning	5	1	5	Medium	Minimise	Education on good seamanship, check vessel security	5	1	5	Medium	Yes
Restricted visibility/fog/heavy rain/ night conditions	5	1	5	Medium	Minimise	Education on good seamanship	5	1	5	Medium	Yes
Tsunami (6hr warning)	3	4	12	High	Fall-back	Check vessel security, Evacuate the Marina	3	4	12	High	Yes
Natural disaster: Volcanic explosion, earthquake, Tsunami (no warning)	1	6	6	Medium	Fall-back	Evacuate Marina/Develop Recovery Plans	1	6	6	Medium	Yes
Large amounts of weeds/seaweed/logs floating within the Marina navigable waters	4	1	4	Low	Minimise	Clear using Marina Tender	4	1	4	Low	Yes
Sabotage/ Security breach/ vandalism/ theft	4	3	12	High	Minimise	Security on site, CCTV. Police	3	3	9	Medium	Yes
National legislation/ Bylaws/ Maritime Rules infringed by boaties	4	1	4	Low	Minimise	Education	3	1	3	Low	Yes
Winged Aircraft operating in Marina (unsafe to do so)	2	3	6	Medium	Eliminate/Avoid	Ban winged aircraft from entering Marina	1	3	3	Low	Yes
Helicopter operating in Marina	4	2	8	Medium	Minimise	Helicopter operations with prior approval and in accordance with Helicopter operating plan	4	1	4	Low	Yes

Appendix B: Kennedy Point Marina Navigation Safety Action Plan

Kennedy Point Marina will implement the following Marina Navigation Safety Action Plan to manage the identified risks, provide for a safe boating environment and promote the conduct of good seamanship. With respect to managing vessel Navigation within Zone 8, the intention is to maintain consistency with and utilise the Maritime Rules, namely:

- Part 22: Collision Prevention (the NZ adoption of the COLREGs).
- Part 91: Navigation Safety Rules (NZ recreational boating rules).
- Auckland Council Navigation Bylaw 2021.

By doing this, it will not only promote education of those rules but also provide a solid legal basis should any intervention be challenged. Overall, by promoting adherence to the Maritime Rules and Regulations and encouraging the safety aspects of those rules/regulations, it is expected to provide for a safe navigable water space and discourage those who wish to use Zone 8 as an unregulated 'play area'.

The common suite of controls that Kennedy Point Marina will utilise are:

- The application of, promulgation and adherence to, published rules and procedures designed to mitigate known risks.
- Marina contingency / emergency plans that have sufficient response equipment readily available for use by trained staff.
- Public education through signage, online communications (social media, emails, website), print media (if required).
- Public education through face to face intervention through Marina staff having polite educational discussions with Marina users.
- If required: Formal intervention through the assistance of the Harbourmaster or Police.

Signage: Appropriately placed, visually appealing signage will be used to promote safe boating practices, highlighting the navigation safety aspects of operating within the vicinity of the Marina covering Speed Limits, Rule of the Road, Prohibited Activities, and the use of Personal Floatation Devices.

Education: Human factors are the key underlying facet that must be targeted to create a navigationally safe area. Proactive education communications will be utilised to promote navigational safety within the vicinity of the Marina. Channels of communication will feature inclusion of detail where appropriate in:

- Marina Rules and Procedures.
- Online communications using social media apps such as the Kennedy Point Marina Facebook page, Berth Holder emails, publicly facing Kennedy Point website.
- Key mentions in the Online Booking Portal for visiting vessels.
- Adverts as required in local print media, e.g., Gulf News, Weekender.
- Marina staff will have a regular visible presence throughout the Marina including on-water and will encourage safe boating practices through polite conversations.
- On the rare occasion, if there is a deliberately belligerent person creating a risk to navigational safety, who is not responding to the aforementioned means of public education, then the issue will be elevated to the Harbourmaster and/or Police. E.g., Protestors deliberately blocking vessel access.

Kennedy Point Marina will:

- Recognise that all boats, kayaks, SUPs, etc, are classified as 'vessel' which by Maritime Rule (MR) Part 91 means ‘every description of boat or craft used in navigation, whether or not it has any means of propulsion’.
- Encourage through signage and education for all beach launched small boat activities to primarily occur in the water space between Zone 8 and the shoreline using the line of pile moorings as the visual delineator.
- Through signage and education, promote relevant sections of Auckland Council Navigation Bylaw 2021, including a Speed Limit of 5 knots maximum.
- Prohibit all sailing within Zone 8 of the Marina.
- Prohibit all fishing within the Marina.
- Prohibit swimming within Zone 8 of the Marina.
- Treat all of Zone 8 Navigation Area as a Narrow Channel/Fairway in accordance with MR Part 22.9 and apply the following rules:
    - A vessel proceeding along the course of a narrow channel or fairway must keep as near to the outer limit of the channel or fairway which lies on its starboard side as is safe and practicable.
    - A vessel of less than 20 metres in length must not impede the passage of a vessel which can safely navigate only within a narrow channel or fairway.

      [Marina Rules will require ‘Vessels of greater than 20 metres in length will be limited in extent to which they can navigate Zone 8, restricting their movements to just those fairways accessing larger boat berths’.]
    - A vessel must not cross a narrow channel or fairway if such crossing impedes the passage of a vessel which can safely navigate only within that channel or fairway.
- Through signage and education, enforce MR Part 91.13 Anchoring and obstructions:
    - Prohibit anchoring in the Marina (unless in an emergency), such that no person may anchor a vessel so as to obstruct the passage of other vessels or obstruct the approach to any wharf, pier or jetty.
    - When a vessel is moored in a dock or alongside a wharf or other landing place, the owner or master must ensure that:

      (a) The vessel is securely fastened to the dock, wharf or landing place; and

      (b) An adequate and safe means of access to the vessel is provided that is properly installed, secured, and adjusted to suit any tidal conditions.
    - No person may place any obstruction, including any fishing apparatus, in any waters that is likely to:

      (a) Restrict navigation; or

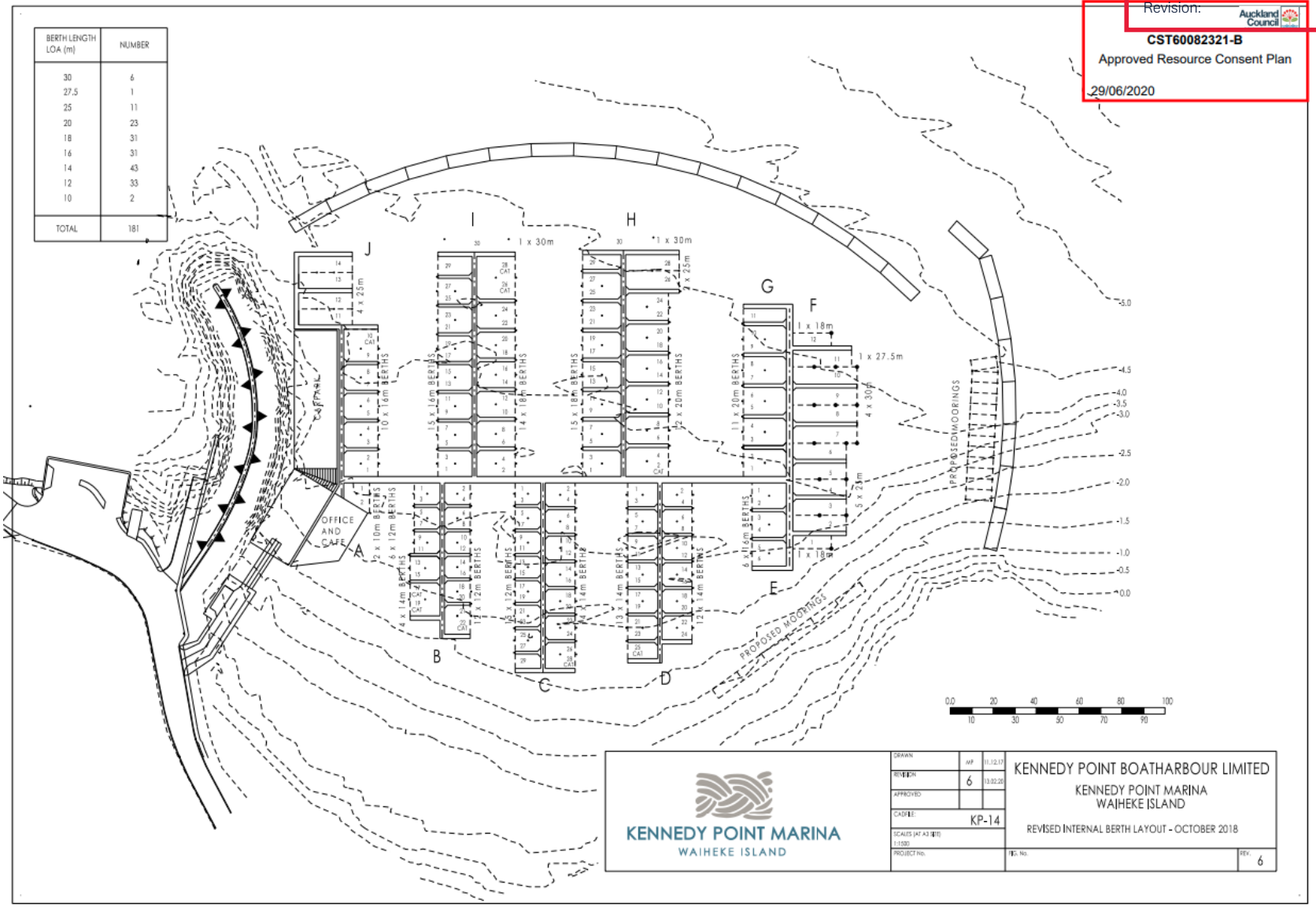
      (b) Cause injury or death to any person; or

      (c) Cause damage to any vessel or any property.

- Through signage and education, promote MR Part 91.4 Personal flotation devices:
    - No person in charge of a recreational vessel may use it unless there are on board at the time of use, and in a readily accessible location, sufficient personal flotation devices of an appropriate size for each person on board. [This includes Stand up Paddleboards (SUPs)].
- The navigable waters within and around the Marina are accessible by the public, whether that be by vessel, personal watercraft (i.e. jet ski, kayak, SUPs) or swimming, subject to compliance at all times with the Navigation Bylaw 2021. The bylaws relevant to navigation within the Marina are:
    - A person must not operate their vessel at a speed exceeding 5 knots within 50 metres or any other vessel or person in the water or 200 metres of the shore or of any structure, unless certain exemptions apply (clause 8).
    - A person operating a vessel must comply with all Maritime Rules about collision prevention (clause 9).
    - The owner or person in charge of a vessel must obtain prior approval of the facility owner to leave the vessel unattended at any structure such as a wharf, ramp or pontoon (clause 11).
    - A person must not obstruct the navigation of any navigable waters, such as the passage of vessel or approach of a vessel to a wharf, pier, quay, jetty, pontoon or mooring, or unlawfully detach a vessel from its anchor, mooring or securing to a wharf, quay, jetty or pontoon or similar structure (clause14).
    - The person in charge of a recreational vessel must ensure the wake from the vessel or from any person or object being towed does not prevent other people from safely using the navigable water, or cause danger or risk of damage to other vessels, structures or navigation aids, or cause any risk of harm to any other person (clause 15).
    - A vessel's propulsion system must not be operated at a wharf, quay, jetty, pontoon or similar structure in a way that may damage any vessel or structure or harm any person (clause 16).
    - A person must not swim, jump or dive from or within 50 metres of a wharf, quay, jetty, pontoon, boat ramp or similar structure when a vessel is approaching, manoeuvring alongside or departing, or within any navigational channel leading to a wharf, quay or jetty (clause 22).
- From time to time, and with the approval of Council, Kennedy Point Marina may implement access measures and restrictions to ensure the health and safety of the public, the proper operation of the Marina facilities and the security of berth holders' vessels. These could include exclusion of public access to the Access Wharf and Marina buildings via the water (land-based access to these structures could still be available) or restriction of public access within 50 metres from a berth for a certain period (such as for the maintenance or cleaning of the Marina).
- Kennedy Point Marina maintains Emergency response plans catering for all foreseeable emergencies likely to occur within the Marina. These plans have sufficient equipment resourcing to give effect to the plan, and training will be conducted regularly with Marina staff and wider emergency responders (e.g., Fire and Emergency NZ, St John).
- For occasions of vessel movement during high winds, the Marina Tender and staff will be available to provide tug assistance.

Appendix C: Kennedy Point Marina Layout

Compliance Monitoring Certified
Auckland Council
Date: 24/10/2023
CST60082321
Certifier: Yashika Joshi
Related conditions: C95
Revision:
Auckland Council
CST60082321-B
Approved Resource Consent Plan
29/06/2020



Appendix D: Kennedy Point Marina Zones