Notice is given that a Resource Consent Hearing will be held on:

Date	~~Thursday 26 May 2022~~ Hearing postponed. New date Tues 02 Aug 2022, Council Chambers at 9.00 am. ~~(reserve day – Friday 27 May 2022)~~
Time	**9.30 am** (day one)
Venue	**Thursday - Club Waimea,** **345 Lower Queen Street, Richmond** Friday (reserve day) – Council Chambers, 189 Queen Street, Richmond
Zoom	**Available – details on application webpage five working days before Hearing**

Commissioners (Resource Consent) Hearing

AGENDA

Commissioners	**Sharon McGarry (Chair)** **Reginald Proffit**
Council staff	**Leif Pigott, Team Leader - Natural Resources, Resource Consents** **Alastair Jewell, Principal Planner (Hearing Facilitator)**

Phone: 03 543 8422

Email: alastair.jewell@tasman.govt.nz

Website: www.tasman.govt.nz

Note: The reports contained within this agenda are for consideration and should not be construed as the decision of the Council.

Hearing postponed. New date Tues 02 Aug 2022, Council Chambers at 9.00 am.

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AGENDA

1 Opening, welcome

2 Reports

Resource consents applied for

Discharge permit RM200638

To discharge biosolids to land.

Discharge permit RM200639

To discharge contaminants from the biosolid application to air (mainly odour).

Land use consent RM200640

Land use consent to use and operate the biosolids acceptance facility and for activities associated with biosolid application in the Rural 2 and Conservation zones.

Discharge permit RM201002

To discharge stormwater and washwater from the biosolids acceptance facility to land.

Submissions

This application was publicly notified on 14 April 2021 and four submissions were received. Of these, two support the application, two oppose the application, and three submitters asked to be heard.

Purpose of report

This report is not the decision on the application.

It contains advice and recommendations from professional planners and other experts.

It has yet to be considered by the Hearings Commissioners appointed to the Panel and delegated by Tasman District Council to decide these resource consent applications.

The decision will be made after the Commissioners have considered the application, this report, and heard all evidence from the applicant and the submitters.

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2.1 Nelson Regional Sewerage Business Unit's resource consent applications at Rabbit Island / Moturoa, to apply biosolids to land, including the discharges of contaminants to land and air, and associated operation of the biosolids acceptance facility
Council reference RM200638 and ors

DECISION REQUIRED

Report to	Commissioners (Resource Consent) Hearing
Meeting date	27 May 2022, 28 May 2022 (reserve day) Hearing postponed. New date Tues 02 Aug 2022, Council Chambers at 9.00 am.
Report author	Alastair Jewell, Principal Planner - Resource Consents
Report number	REPC22-5-27
Attachments:	1. Section 42A report and recommendation by reporting officers 2. TRMP maps – zoning, notations and areas 3. Recommended draft conditions

Report and recommendation.

The Section 42A report and recommendation on the resource consent application (Attachment 1) has been prepared by Leif Pigott as the Council's reporting planner.

This Section 42A report and attachments was compiled for release by Mr Alastair Jewell, Principal Planner.

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REPORT UNDER SECTION 42A OF THE RESOURCE MANAGEMENT ACT 1991

Resource consent application by	Nelson Regional Sewerage Business Unit
Application number	RM200638, RM200639, RM200640, RM200641.
Site address	Moturoa / Rabbit Island
Legal description	Pt Island 5 Rabbit Waimea East District
Report and recommendation prepared by:	Leif Pigott, Team Leader, Natural Resources

Note: This is not a decision.

This report sets out the advice and recommendations of the reporting planners.

The independent commissioners delegated by Tasman District Council to decide this resource consent application have not considered this report yet.

The independent hearing commissioners will only make a decision after they have considered the application and heard all evidence from the applicant, submitters and council officers.

1 Introduction

1.1 The application seeks the following resource consents:

RM200638	Discharge permit to discharge biosolids to land (duration 35 years).
RM200639	Discharge permit to discharge contaminants from biosolids applications (mainly odour) to air (duration 35 years).
RM200640	Land use consent (s9(3)) to operate and maintain the Biosolids Acceptance Facility, together with all land use activities associated with the above application of biosolids to land (duration 35 years).
RM200641	Discharge permit to discharge washdown water and stormwater to land from the Biosolids Acceptance Facility (duration 5 years).

1.2 This report has been prepared under section 42A of the Resource Management Act 1991 (RMA) to assist the hearing of the application for resource consents made by [applicant] on [date]. The application is considered under the RMA provisions as at the date the application was made.

1.3 Section 42A allows consent authorities to require the preparation of such a report on an application for resource consents and allows the consent authority to consider the report at any hearing.

1.4 The purpose of the report is to assist the Panel in making a decision on the applications.

1.5 The relevant version of the RMA is the version under which the application was made. The application was lodged on 7 August 2020, and accordingly the RMA version is:

Resource Management Act 1991 No 69 (as at 16 May 2020), Public Act Contents – New Zealand Legislation

[go to this legislation.govt.nz and select the link to the correct version – above is what happens when pasted into word document]

Qualifications and experience

1.6 I am the Team Leader Natural Resource Consents at Tasman District Council. I have been employed in consenting roles by the Council since 2007.

1.7 I hold a Master of Science qualification from Auckland University and am a full member of the New Zealand Planning Institute (NZPI). I have over 20 years' experience working for regional and unitary councils in NZ, including experience with domestic and industrial wastewater treatment, land application of wastewater, air quality, and resource consent application processing.

1.8 I was employed as a scientist at Environment Waikato specialising in air quality for seven years.

1.9 Since 2007 I have processed the renewal of resource consents to discharge contaminants to air and treated wastewater from the Bell Island (NRSBU) Wastewater Treatment Plant (WWTP), Tākaka WWTP, Motueka WWTP, Collingwood WWTP, St Arnaud WWTP and Murchison WWTP. In addition, I have processed consents for numerous private onsite wastewater treatment systems in the Tasman District.

1.10 I have been involved with the NRSBU application since it was lodged and received by the Council. I am a regular user of Rabbit Island / Moturoa and Rough Island for various activities including walking, swimming, fishing and on the odd occasion collecting firewood.

Expert witness code of conduct

1.11 I acknowledge that this is a consent authority hearing. I have read and agree to comply with the Code of Conduct for expert witnesses as set out in the Environment Court Consolidated Practice Note 2014. I have also read and am familiar with the Resource Management Law Association / New Zealand Planning Institute "Role of Expert Planning Witnesses" paper. I confirm that the evidence

on planning matters that we present is based on my qualifications and experience, and within my area of expertise. I are not aware of any material facts which might alter or detract from the opinions I express. If I rely on the evidence or opinions of another, my evidence will acknowledge that.

2 Summary of proposal

2.1 The Nelson Regional Sewerage Business Unit (jointly owned by Nelson City Council and Tasman District Council) treats wastewater from Tahunanui, Stoke, Richmond, Mapua, Brightwater and Wakefield at the Bell Island Wastewater Treatment Plant (WWTP). The WWTP has been operating since 1984 and has been subject to several upgrades over the years. Resource consents for the continued operation of the WWTP were recently granted by Commissioners in February 2020.

2.2 The Nelson Regional Sewerage Business Unit (NRSBU) has applied biosolids from the Bell Island WWTP to the commercial forestry area on Moturoa / Rabbit Island under existing resource consents, obtained under the Resource Management Act 1991 (RMA), for the past 24 years.

2.3 The Applicant has applied for replacement permits for:

a. A discharge permit for the application of biosolids to land,

b. A discharge permit for the discharge of odour to air as a result of the application of biosolids to land and the operation of the Biosolids Application Facility (BAF),

c. A land use consent to operate and maintain the BAF and all other land use activities associated with the application of biosolids to land, and

d. A discharge permit for stormwater and washdown at the BAF (5 years term).

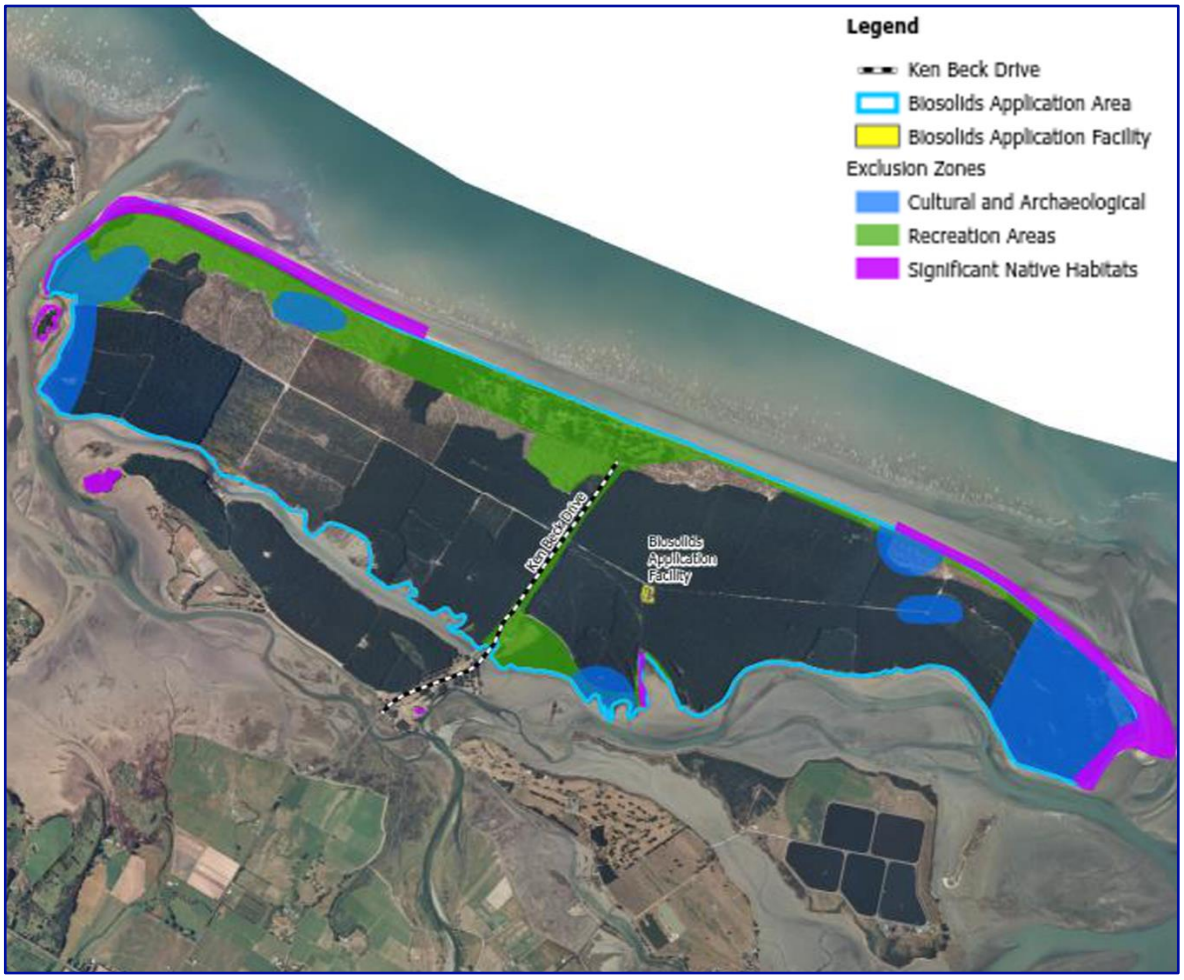
2.4 NRSBU seeks a 35-year duration on all resource consents relating to the application of biosolids to land.

2.5 Permit NN940379V3 held by the NRSBU expired on 10 October 2020. The application for replacement consent was lodged with Council on 7 August 2020. The Council's Resource Consents Manager confirmed that the Council exercised its discretion under section 124 of the Act to allow NRSBU to continue operating, as they had lodged this application no later than three months before the expiry of NN940379V3. NRSBU can continue its activities under the expired permits until the application process is completed.

2.6 The biosolids, which are diluted in water at a ratio of approximately 1:24 (or put another way, approximately 4 per cent biosolids to 96 per cent water), are pumped from the WWTP via an underground pipeline to holding tanks at the Biosolids Application Facility (BAF) on Moturoa / Rabbit Island. From the BAF, the biosolids are applied to land under plantation forestry on Moturoa / Rabbit Island via tankers and travelling irrigators. The application of biosolids provides beneficial nutrients to the existing forestry operation. The forestry is managed by PF Olsen Limited on behalf of the Council as landowner.

2.7 The applicant has volunteered several exclusions zones and buffer areas are identified with no biosolids to be applied to any of the exclusion zones identified in the figure below.

Figure 1: Biosolids application area and exclusion zones (source Applicant AEE, figure 4.1)



2.8 The exclusions zones are:

a. Land regularly used for recreation purposes, including the entire domain area on the northern margin of the island,

b. Significant native habitats, and

c. Archaeological and cultural sites.

2.9 The applicant accepts that revision to the exclusion zones may be required as a result of ongoing engagement with Te Tau Ihu Iwi and / or to confirm that the demarcation on figure above provides a practical boundary on the ground and does not present any operational difficulties.

2.10 In addition to the exclusion zones, a number of buffer areas apply. As with the exclusion zones, no biosolids are applied in the buffer areas. The key difference is that the exclusion zones remain fixed

whereas the location of buffer zones have the potential to change according to the circumstances. The buffer areas proposed are:

a. 50 metres from mean high water springs, to limit any adverse effects on the coastal marine area and recreation users,

b. 15 metres from areas where the public has unrestricted access (such areas may change from time to-time due to forestry operations),

c. For areas bordering the Domain (i.e. the Recreation Reserve area located just behind the front beach on Moturoa / Rabbit Island):

- 30 metres during the months of April to October inclusive, and
- 100 metres in the months of November to March inclusive.

3 Site Description

3.1 Moturoa / Rabbit Island is located at the northern extent of the Waimea Inlet, between Mapua and Nelson City. The WWTP on Bells Island is located approximately 800 metres to the south of Moturoa / Rabbit Island (east end).

3.2 The nearest residential area to Moturoa / Rabbit Island is Mapua township which is immediately northwest and across a short channel of about 200 metres. A small residential area on Best Island is located about 1700 metres south of the nearest coast of Moturoa / Rabbit Island. There is also a golf course on Best Island about 6-700 metres away from Moturoa / Rabbit Island.

3.3 The majority of Moturoa / Rabbit Island is occupied by commercial forestry and has been highly modified by human activity, including the replacement of almost all indigenous vegetation with *Pinus radiata* since the 1920s.

3.4 The islands in the Waimea Inlet have an extensive and rich Māori history. Historically, the wider Waimea area provided fertile plains, wetlands, estuarine and freshwater ecosystems and with that, an abundance of resources.

3.5 The Deed of Settlement legislation for Te Tau Ihu o te Waka a Māui iwi provides statutory acknowledgement of identified areas. A statutory acknowledgement is a type of cultural redress for geographic features that acknowledges the cultural, spiritual and historical and traditional association and significance of that particular area for iwi. The identified areas within Tasman District include the Te Tau Ihu Coastal Marine Area and numerous river catchments and tributaries. Moturoa / Rabbit Island is not specifically identified as a statutory acknowledgement area; however, it adjoins the Coastal Marine Area. The Settlement did however amend existing geographic name of Rabbit Island to Moturoa / Rabbit Island.

3.6 Waimea Inlet is a shallow bar-built estuary located within Tasman Bay adjacent to the city of Nelson. The Waimea Inlet is one of the largest inlets in New Zealand (3,460 hectares), it contains

approximately 3,307 hectares of intertidal area with the remaining 150 hectares being subtidal. There are ten islands located within the inlet, which contribute significantly to the considerable habitat heterogeneity. There are two tidal openings located at opposite ends of Rabbit Island, and the island forms a barrier between the inlet and Tasman Bay. Due to its broad shallow configuration, and a spring tidal range of 3.7 metres, the tidal compartment is largely drained with each ebbing tide, resulting in a relatively rapid flushing rate.

3.7 Waimea Inlet plays a significant role in the integration of terrestrial and coastal marine ecosystems by, for example, providing critical habitat for a variety of plant and animal species, maintaining coastal productivity, and nourishing the marine food web. High value is placed on the Inlet's terrestrial-wetland coastal aquatic continuum as habitat for wildlife, fish and invertebrates, and its complex, heterogeneous physical and biological structure. The inlet has also been assessed by the Department of Conservation as meeting the criteria for a wetland of international importance.

3.8 Waimea Inlet is listed in Schedule 25D of the Tasman Resource Management Plan (TRMP) as an area with nationally significant ecosystem values. These values include the inlet's status as the largest barrier enclosed estuary in the South Island and it is one of only two sites where the endangered peppercress plant has been recorded. Also present are endangered grey saltbush, white heron, royal spoonbill, Australasian bittern and banded rail. The area is considered of outstanding importance to wader birds. Rabbit Island/Moturoa is the largest barrier island in New Zealand.

3.9 Moturoa / Rabbit Island has been an important recreation destination for both locals and visitors to the Tasman District since the early 1900s. The sole land access to the island is via Ken Beck Drive, which crosses the Waimea Inlet via a causeway and a short length across Rough Island. Public access is limited to daylight hours (dusk to dawn) year-round.

3.10 Moturoa / Rabbit Island provides opportunities for walking, relaxing on the beach, horse riding, cycling (including Tasman's Great Taste Trail and the mountain bike park), running, orienteering, cross country, triathlons, kayaking, fishing, kite flying, blokarting, kite surfing and other water sports. There is one boat ramp facing Bell Island.

3.11 South of Bell Island is Best Island where there are approximately 30 houses at its southeast end. The remainder of Best Island is used as a golf course or is grazed. West of Best Island is the Waimea River which is a popular location for trout fishing.

3.12 Moturoa / Rabbit Island is composed of late Quaternary clastic deposits, comprising the Rabbit Island Gravels overlain by the Tahunanui Sand. The Rabbit Island Gravels comprise rounded gravels and cobbles with varying lithology, predominantly from the Moutere area, as well as the Port Hills area. The gravels have been deposited via longshore drift and have been reworked in part from older beach ridges. The Rabbit Island Gravels are up to 20 metres thick. The Tahunanui Sand is a fine-grained sand that forms beach ridges and dunes that overlie or laterally grade into the Rabbit Island Gravels. The Tahunanui Sand is estimated to be 16 metres thick in places on Moturoa / Rabbit Island.

3.13 Moturoa / Rabbit Island is largely flat with a maximum altitude of 10 metres above sea level. The soil is classified as a sandy raw soil with naturally low nutrient and organic levels. The lack of

nitrogen (N) in particular greatly limits radiata pine growth. The soil is permeable and provides free root access to the shallow ground water levels which are 2-4 metres below the surface

3.14 Nickel occurs at naturally high levels in Moturoa / Rabbit Island soils due to the influence of the nickel rich Dun Mountain Complex.

3.15 The hydrogeology of Moturoa / Rabbit Island comprises an unconfined aquifer within the unconsolidated sediments of the Tahunanui Sands and Rabbit Island gravels. This unconfined aquifer is underlain by the clay-bound Hope Gravels that may act as an aquitard, separating the island aquifer from other water-bearing units. The unconfined aquifer at the island is recharged through rainfall and it is likely that there is a lens of freshwater underlain by saline water intruding from Tasman Bay and the Waimea Inlet.

3.16 There are small wetlands mapped at either end of the island and all the Waimea Inlet is mapped as a coastal wetland.

3.17 Moturoa / Rabbit Island is managed in accordance with the Moturoa / Rabbit Island Reserve Management Plan - Te tūhinga hukihuki Mahere Whakahaere o Moturoa dated September 2016. This plan sets out sets out the vision, objectives, policies and priorities for Moturoa / Rabbit Island, Rough Island and Bird Island ('the Islands') for the next ten years.

3.18 Most of the island is a Local Purpose (Plantation) Reserve, see map below. Local Purpose (Plantation) Reserve areas continue to be successfully managed as a sustained yield commercial forest, where similar timber volumes are harvested each year. Forests on Moturoa / Rabbit Island and Rough Island are managed by:

- Growing trees and producing logs for the domestic and export market;
- Ensuring that the productivity of the land does not decline;
- Ensuring that environmental values are identified and maintained;
- Ensuring that cultural values, wāhi tapu and other significant sites are identified and protected;
- Ensuring that other forest values and products are identified, protected and where possible enhanced;
- Harvesting the trees as close as possible to their economic optimum age;
- Replanting following harvesting where appropriate; and
- Enabling recreation activities in areas where forestry operations are not currently underway.

Figure 2: Moturoa / Rabbit Island reserve classification (Source: Reserve Management Plan - Figure 1)

3.19 The forestry operation at Moturoa / Rabbit Island and Rough Island is subject to an Act of Parliament which prescribes that a minimum of 10 per cent of the net profit derived from the sales of forest products are to be made available for funding of recreational activities on the Islands. Section 3 of the Waimea County Council Empowering Act 1979 states:

> *"The Council shall apply 10 per cent of the net profit from the sales of forest products and associated activities conducted on the land described in the Schedule [i.e. Rough and Moturoa / Rabbit Islands] in each financial year, or such greater proportion of it as it considers necessary, for the purposes of the adequate maintenance and improvement of the reserves on that land for recreational purposes, or for the purposes set out in section 80 of the Reserves Act 1977."*

Cultural context of Moturoa

3.20 The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga is reflected in the rich Māori history and sites of settlement / kāinga at Moturoa, Waimeha and the wider Te Tau Ihu rohe.

3.21 Moturoa was the site of early Māori settlement/kāinga since the early 13th and 14th centuries, evinced by pākanga, urupā, and māhinga kai sites. The occupation by Māori on Moturoa signifies a lived history and relationship with the natural environment and an indicator of Iwi identity.

3.22 Archaeologists have completed multiple archaeological surveys and reports for the sites of settlement / kāinga/ taonga on Moturoa. There are twelve archaeological sites recorded on Moturoa and documented on NZAA ArchSite database. The archaeological evidence of this early sites of settlement / kāinga from sites near Appleby and Waimea West includes implements and personal ornaments that have similarities with Pacific Polynesian designs.

3.23 Archaeologists suggest that the sites at the western end of the islands were most likely associated with the Māori fishing village at Grossi Point in Māpua that were occupied as early as 1200 AD. The majority of the recorded sites on the island are middens, oven stones, artefacts and fishing related finds suggesting early sites of settlement / kāinga and māhinga kai activities. Many of the sites are found around the coastal margins of the island and are susceptible to erosion.

3.24 All archaeological sites are protected by the Heritage New Zealand Pouhere Taonga Act 2014 and the Resource Management Act 1991, but also within iwi management plans, statutory acknowledgements and Te Tiriti o Waitangi. These archaeological sites read in isolation complement the cultural narratives and histories by assisting in identifying the wider narrative and story of the site, but the pūrakau, mātauranga Māori and history that is transmitted through generations of the site is and should be respected in this context. There are sensitive files and cultural layers within iwi archives that have not been made accessible to the public to ensure that fossicking does not occur and to protect wāhi tapu from further exploitation from fossicking and damage. It is at the discretion of iwi as to whether this information is shared in the public domain or if it remains confidential.

3.25 The applicant commissioned a Cultural Impact Assessment (CIA) and has included this as part of the application. The findings of the CIA are discussed further on in this report and they are predictably consistent with the Moturoa / Rabbit Island Reserve Management Plan.

4 Status of application

4.1 The applications were lodged with the Tasman District Council in [date lodged].

4.2 The Tasman Resource Management Plan (TRMP) zoning and overlay areas are:

TRMP Zoning	Plantation areas on Moturoa / Rabbit Island are zoned Rural 2 or Conservation
TRMP Areas	The Island is in the Coastal Environment Area and the estuary is in the Waimea Inlet is listed under Schedule 25D with Nationally important ecosystem values
Other notations	The Waimea inlet is a mapped wetland

4.3 The TRMP permitted activity rules contravened by the proposed activities and the resulting activity statuses are listed in the table below.

Activity	Applicable rules	Status
RM200638 Discharge biosolids to land		
Discharge permit.	Rule 36.1.5.2	Discretionary
RM200639 Discharge contaminants from biosolid application (mainly odour) to air		
Discharge of contaminants to air	Rule 36. 3.5.3 or rule 36.3.5.1	Discretionary
RM200640 Land use consent to use and operate Biosolids Acceptance Facility and activities associated with biosolid application in the Rural 2 and Conservation zones		
Land use consent	Rule 17.6.3.5 as an activity in the Rural 2 zone not otherwise permitted under rule 17.6.3.1, nor provided for as a controlled activity (17.6.3.2) nor restricted discretionary activity (17.6.3.4). Rule 17.11.2.1 as an activity in the Conservation Zone not otherwise permitted under rule 17.11.2.1.	Discretionary
RM200641 Discharge of stormwater and washwater to land from the Biosolids Acceptance Facility		
Discharge of contaminants to land	Rule 36.1.5.2. as a discharge to land (other)	Discretionary

4.4 The application was lodged on 7 August 2020. The Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-FW) came into force 3 September 2020. As such, the application predates the NES-FW and National Policy Statement for Freshwater Management (2020) (NPS FW). The applicant has not revised the application in light of the changes; however they are not specifically applying for a discharge to water. It's noted that the effects from the discharge to land on the receiving water are low according to several technical reports appended to the application.

4.5 Since the lodgement of the application, under sections 55(2) and 55(2A) the provisions of the TRMP have been amended without any First Schedule notification process. This is to implement the NPS FW direction.

Overall activity status

4.6 All the above resource consents are necessary for the proposed activity, and to consider all the relevant effects of the proposal in accordance with the principle of integrated resource management, the application is bundled and the most restrictive activity status is applied. The application is considered overall as a discretionary activity.

Existing resource consents

4.7 The following resource consents have been granted and implemented for the site and surrounds:

Activity	Resource consent type	Reference	Granted	Expires
Application of biosolids to land at Moturoa/Rabbit Island	Discharge permit	NN940379V3	17 October 1995	8 November 2020
Operation and maintenance of the Biosolids Application Facility and all other land use activities associated with the application of biosolids to land at Moturoa/Rabbit Island	Land use consent	RM940534	17 October 1995	n/a (unlimited duration)
Occupy the coastal marine area with an underground pipeline from Bell Island WWTP to the BAF.	Coastal permit	RM050862	14 October 2005	14 October 2040

5 Notifications and submissions

Notification

5.1 The following is a summary of key steps in the timeline for the application:

Date	Process detail
7 August 2020	Application lodged and received On hold awaiting CIA
22 February 2021	CIA received
14 April 2021	Application notified
19 May 2021	Submission period closed
25 June 2021	Processing suspended at Applicant's request (under s 91A)

Date	Process detail
20 December 2021	Applicant requested processing restart and go to Hearing[1].

Submissions

5.2 The application was publicly notified and four submissions were received. Two support the application, two oppose the application. Three submitters wish to be heard.

Submissions

Submitter	support / oppose	wish to be heard
Waimea Inlet Forum Working Group	Support	Yes
Heritage NZ Pouhere Taonga	Support and oppose	No
Te Runanga o Ngāti Rārua	Oppose	Yes
Te Ātiawa O Te Waka A Maui Trust	Oppose	Yes

Waimea Inlet Forum Working Group (WIF)

5.3 Cawthron monitoring programme indicates that spreading of biosolids to land on Moturoa / Rabbit Island over the past 24 years has had less than minor adverse effects on the enrichment or contaminant status of intertidal habitats around Moturoa / Rabbit and Rough Islands.

5.4 The spreading of biosolids to land has not resulted in the accumulation of arsenic or any of the monitored trace metals in intertidal sediments, nor have any effects on the sediment-living fauna been identified.

5.5 The risk of adverse effects from cumulative nutrient enrichment and toxic contamination of intertidal sediments and the wider Waimea Inlet due to future spreading of biosolids (in amounts no higher than those applied to date) is likely to be less than minor.

5.6 Volunteered consent conditions do not deal with:

a. any increasing volume or change in composition of the biosolids caused by, for instance, urban growth and changing trade waste composition, nor

[1] 130 working days timescale extended by the Council under sections 37 and 37A

b. the predictable and unpredictable effects of climate change, mainly through sea level rise and increased storminess, and of changes in vegetation management on Rabbit Island,

c. the six-yearly reviews must also be able to trigger robust remedial actions if the monitoring reveals that the standard of environmental and public health outcomes is at risk,

d. They don't cover remedial works before guidelines are exceeded.

5.7 The consenting authority will need to assess the effect of sea level rise over the term of the consent, both on the line of MHWS and on the depth to groundwater in the disposal areas. The proffered 50 metres wide buffer from MHWS can be expected to move inland, and at a faster rate where the land is low-lying, notably around the south side of the island. As this impact comes into effect, the NRSBU will need to review how much of the affected land should be taken out of the biosolids spreading area.

5.8 WIF wish to see consent conditions added:

a. To make the six-yearly reviews available to the general public by posting them on the NRSBU website,

b. To establish upper limits on the amounts of contaminants and nutrients reaching the soil, the groundwater and the Inlet, and to require that if the six-yearly monitoring reveals rising trends that may be heading towards exceedance of those limits, remedial action will be taken by the consent holder to ensure that they will not be exceeded,

c. To require that the consent be amended as necessary to ensure that the biosolids operation complies with and implements the Council's Coastal Management Strategy, within three months of that document being finalised, so that at predetermined trigger (decision) points, operational changes will be made, in order to achieve the outcomes of that Strategy for the rest of the term of the consent

d. To require the Consent Holder to prepare a climate change adaptation plan and to implement measures which anticipate and adapt to future climate change before it causes adverse environmental impacts, through the establishment of trigger points for preventative actions.

e. In particular, to require the width of the coastal buffer area to be increased in specific places, within three months after each six-yearly review, in the event that the progress of sea level rise causes the 50 metres width to be reasonably foreseen to be inadequate to prevent contaminants and nutrients reaching the Inlet in those places, especially with regard to occasional high tide storms,

f. To require exclusion zones to be added or extended, within three months after each six-yearly review, wherever the depth to the water table becomes insufficient to prevent contaminants and nutrients reaching it, in the event that the progress of sea level rise shows that the depth to the water table will reduce before the end of the term of the consent,

g. To provide for the realignment of buffer area boundaries, within three months after each six-yearly review, in the event that natural regeneration, migration of natural vegetation, and/or reestablishment of native cover show that the migration of the inland boundaries of any of the significant native habitats will encroach into mapped buffer areas before the end of the term of the consent.

5.9 The applicant is seeking to renew the existing consents, for which the 24-year term has now expired. A new term of 35 years is sought. The Cultural Impact Assessment recommends a term of 15 years. The recently renewed Bell Island Wastewater Treatment Plant discharge consents run for twenty years from February 2020. The applicant's proffered condition requiring six-yearly reporting aligns with the conditions imposed on the Bell Island Wastewater Treatment Plant discharge consents. WIF consider that the maximum duration of the biosolids consents should similarly align with the duration of the Bell Island Wastewater Treatment Plant discharge consents, such that both consents expire on the same date, 16 March 2040. At the end date, both parts of the NRSBU operation will then be reviewed together as one process, and any further consent renewal could draw on the findings of the third six-yearly report. However, we would also be happy to see a shorter term for the biosolids consent, such as 15 years, which would enable any further consent renewal to draw on the findings of the second six-yearly report.

Heritage NZ Pouhere Taonga

5.10 Heritage NZ Pouhere Taonga (HPT) oppose some aspects of the application. They accept that Moturoa Island has extensive cultural and archaeological value, both identified and unidentified. It is important that both the recorded and unrecorded sites are adequately protected. HPT is supportive of a 200 metres buffer around the currently identified sites. They also support the recommendations in the CIA that a preliminary survey by a registered archaeologist occurs and there should be a work program to review, evaluate and assess current archaeological sites and provide a buffer and exclusion zone for activities that may impact on iwi cultural values.

5.11 HPT are also supportive of an annual hui with Te Tau Ihu iwi (volunteered condition 7)

5.12 In conclusion HPT has some concerns with the application in relation to existing exclusion zones and there is a need for further archaeological assessment. If these matters are adequately addressed HPT is not opposed to the approval of this application

Te Rūnanga o Ngāti Rārua

5.13 Overall Ngāti Rārua consider that the long-term discharge of biosolids to Moturoa has the potential to cause significant adverse effects on customary practice that the iwi have with Moturoa.

5.14 They oppose the application and would like it declined

5.15 If the application is granted the following conditions should be imposed as a minimum

a. 200 metres buffer zone around all current and future archaeological and cultural sites to provide an adequate protection and separation.

b. Iwi monitoring protocol should be required as described in Section 9.1 of the CIA.

c. Work program to review, evaluate and assess archaeological and cultural sites should be required.

d. Do not support a 35-year term for the consent. Want to focus on removal or relocation of the discharge. Long term use of this site is offensive. Duration of 15 years is more appropriate as it gives the applicant sufficient time to phase out and remove the discharge components from Moturoa.

e. Greater assessment of alternatives should have been undertaken.

f. Cultural health Indicator monitoring should be undertaken and conditioned in the consent.

g. Annual hui is supported in principle.

Te Ātiawa o Te Waka-a-Māui Trust

5.16 Te Ātiawa trust opposes the application in its entirety. The matters brought up in the submission were as follows:

a. Impact on water quality.

b. Area is wāhi tapu, archaeological lens is just one lens and does not identify the full scope.

c. Forestry machinery and practices still active on urupā.

d. Climate change needs to be considered in more detail.

e. Proposes a 10-year consent term.

f. Adverse effects are more than minor.

g. Adverse accumulative effects are more than minor.

h. 35-year term is excessive.

i. Adverse cultural and spiritual issues for mana whenua mana moana iwi.

j. Adverse cultural and spiritual effect on significant cultural sites.

k. Inconsistent with Part 2 of the RMA.

l. Contrary to TRMP.

m. Enables the continued degradation of the mauri of the coastal environment.

Cultural Impact Assessment

5.17 I have included the CIA as part of the submissions as it provides significant detail and concerns about the consent application.

5.18 The applicant has submitted a comprehensive written CIA as part of the application, this mirrors many of the issues that were raised by the submitters. Iwi have a holistic view of the world. The scope of this application is quite limited, so it makes it challenging to respond to the issues / recommendations of the CIA as some of these are much larger than the scope of what is being considered as part of this section 42A report. The following issues / recommendations formed part of the CIA.

a. Protection of ecosystems and biodiversity "Ngā taonga tuku Iho"

b. Protection of wāhi tapu areas

c. Lack of cultural mapping

d. Customary use and access to māhinga kai

e. Management of biosolid facility

f. Degradation of waterways at Moturoa and Waimea Estuary

g. Climate change

h. Future development and growth

i. 35-year term for resource consent is too long

j. Iwi capacity issues

k. Cultural Health Index monitoring programme

6 Statutory considerations - the Resource Management Act 1991

Part 2 – Purpose and principles

6.1 The purpose of the Resource Management Act (the Act or RMA) is the sustainable management of natural and physical resources. It sets a national framework, guiding regional and district statutory provisions to manage the actual and potential effects of the use of natural and physical resources.

6.2 The following Part 2 matters are considered relevant to this application.

6.3 Section 6 of the RMA identifies matters of national importance that the consent authority is required to recognise and provide for. The following are considered relevant in this instance:

(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:

(b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:

(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

(e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:

(g) the protection of protected customary rights:

6.4 Section 7 identifies other matters that any person exercising functions and powers in relation to managing the use, development, and protection of natural and physical resources under it must have particular regard to. The following are relevant to the consideration of this application:

(a) kaitiakitanga:

(aa) the ethic of stewardship:

(b) the efficient use and development of natural and physical resources:

(ba) the efficiency of the end use of energy:

(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:.

6.5 In achieving the purpose of this Act, under section 8 all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). No section 8 or cultural issues are considered engaged by this proposal.

6.6 The Key Issues assessments in the following sections of this report identify any aspects of the development which are considered potentially inconsistent with the principles of Part 2 of the Act. This includes through the lens of the relevant statutory documents prepared to achieve the purpose of the Act. Where no assessment is made, those aspects of the development are considered non-contentiously consistent with these.

Section 104

6.7 A decision on these applications must be made under sections 104 and 104B. The consideration if the matters a consent authority must have regard to under section 104 are subject to Part 2 (Purpose and principles) of the Act.

Effects – s 104(1)(a)

6.8 The consent authority must have regard to any actual and potential effects on the environment of allowing the activity [2]. In considering any actual and potential effects:

a. any adverse effects that may arise from permitted activities in a national environmental standard (NES) or a plan may be disregarded [3] (the permitted baseline),

b. any effect on a person who has given written approval to the application must be disregarded [4].

6.9 The proposed activity does not include any measures to offset or compensate for any adverse effects on the environment for the purpose of ensuring positive effects on the environment (subs (1)(ab)).

6.10 "Effect" is defined under section 3 of the RMA. "Environment" is defined under section 2 of the RMA.

6.11 In this case, there is no permitted baseline as there is no permitted activity that allows the discharges to occur, and the applications are interdependent and are bundled.

Statutory documents – s 104(1)(b)

6.12 Under section 104(1)(b) the Council must have regard to any relevant provisions of statutory documents, including national environmental standards, other regulations, national policy statements, New Zealand coastal policy statement, regional policy statement, and plan or proposed plans. The specific relevant statutory documents are identified below.

National environmental standards

6.13 The National Environmental Standards for Air Quality 2004 (NES AQ) is the only national environmental standard considered relevant.

National policy statements / New Zealand Coastal Policy Statement

6.14 The purpose of national policy statements is to state objectives and policies for matters of national significance that are relevant to achieving the purpose of the Act. A New Zealand coastal policy statement is the only mandatory policy statement.

[2] s 104(1)(a) RMA
[3] s 104(2) RMA
[4] s 104(3) RMA, noting that there are no issues of potential trade competition effects engaged in respect of this application

6.15 The island is in the Coastal Environment and thus the New Zealand Coastal Policy Statement 2010 (NZCPS) is relevant and must be considered.

6.16 The key objectives and policies in the New Zealand Coastal Policy Statement that are relevant to this application are Objectives 1, 3, 4, 5 and 6 and Policies 2,4,6, 11, 13, 19 21, 23 and 24.

6.17 Objectives 1, 3, 4, 5 and 6 aim to: recognize the role of iwi as kaitiaki and protect characteristics of the coastal environment that are of special value; safeguard the coastal environment and sustain ecosystems by maintaining or enhancing biological processes and water quality; and enable communities to provide for their social, economic and cultural wellbeing and their health and safety.

6.18 Policy 2 The Treaty of Waitangi, tangata whenua and Māori. In taking account of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi), and kaitiakitanga, in relation to the coastal environment.

6.19 Policy (4)(c) (iv) provides for integrated management in the coastal environment where land use activities affect water quality in the coastal environment and coastal ecosystems.

6.20 Policy 6 is to recognise: the contribution that the use of the coastal marine area provides to people and communities; the need to maintain and enhance to recreation qualities and values; recognise that there are activities that have/have not a functional need to be in the coastal marine area. Policy 12 is to protect indigenous biological diversity.

6.21 Policy 11 – aims to protect indigenous biodiversity, avoiding effects on threatened or at risk species

6.22 Policy 13 aims to recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as experiential attributes, including the sounds and smell of the sea; and their context or setting.

6.23 Policy 19 policy aims to maintain and enhance walking access along the coast, only stopping it to protect specific things.

6.24 Policy 21 aims to improve water quality where it has deteriorated to a point where it is having a significant adverse effect on ecosystems, natural habitats, or water- based recreational activities or where it is restricting existing uses such as shellfish gathering and cultural activities.

6.25 Policy 23 provides for appropriate discharges, subject to the sensitivity of the receiving environment, the nature of the contaminants, the capacity of the receiving environment to assimilate the contaminants, the avoidance of significant adverse effects on ecosystems and habitats after reasonable mixing and the use of the smallest mixing zone necessary to achieve the required quality in the receiving environment. The policy makes specific reference to avoiding the adverse effects of the discharge of stormwater by reducing contaminant loading via containment treatment and controlling land use activities and promoting design options that reduce flows at source.

6.26 Policy 24 identification of natural hazards

6.27 The general thrust of the objectives and policies in the NZCPS 2010 are reflected in the objectives and policies of the Tasman Regional Policy Statement (TRPS) and the Tasman Resource Management Plan (TRMP). However, the TRPS and TRMP have not been comprehensively reviewed for consistency with the NZCPS 2010. Thus explicit consideration of the NZCPS is required.

Tasman Regional Policy Statement

6.28 The objectives and policies in the Tasman Regional Policy Statement (TRPS) relevant to the proposed activity are reflected in the provisions of the Tasman Resource Management Plan (TRMP).

Tasman Resource Management Plan

6.29 The Tasman Resource Management Plan is a unitary plan. The Tasman Resource Management Plan is the relevant operative plan.

6.30 The Applicant has provided an assessment of the relevant objectives and policies as part of the application (Appendix N). I am adopting that appendix rather than repeating it.

Other matters – s 104(1)(c)

6.31 The consent authority may consider any other matter the consent authority considers relevant and reasonably necessary to determine the application.

Statutory Acknowledgement Areas

6.32 Statutory Acknowledgement Areas have been established by the Ngāti Apa ki te Rā Tō, Ngāti Kuia and Rangitāne o Wairau Claims Settlement Act 2014, the Ngāti Koata, Ngāti Rārua, Ngāti Tama ki Te Tau Ihu and Te Ātiawa o Te Waka-a-Māui Claims Settlement Act 2014, and the Ngāti Toa Rangatira Claims Settlement Act 2014.[5] These acknowledgements recognise the special associations or particular relationships that these eight iwi making up Te Tau Ihu have with areas and resources, including with the coastal marine area or freshwater bodies in the region. In this instance the application site is adjacent to a statutory acknowledgment area.

6.33 These statutory acknowledgements recognise the special associations or particular relationships that these eight iwi have with the coastal marine area and various river catchments. The functions of a Statutory Acknowledgement are to:

a. require relevant consent authorities to have regard to the statutory acknowledgement; and

b. require relevant consent authorities to provide summaries of resource consent applications, or copies of notices of resource consent applications, to the relevant trustees; and

[5] These statutory acknowledgments are specified in Schedule 11 of the RMA

c. to enable the relevant trustees and members of the relevant iwi to cite the Statutory Acknowledgement as evidence of the iwi's association with the "statutory area".

6.34 A consent authority must have regard to the statutory acknowledgement relating to the "statutory area" in deciding, under section 95E of the RMA, whether the relevant trustees are affected persons in relation to an activity within, adjacent to, or directly affecting the "statutory area" and for which an application for a resource consent has been made. In this case, notice of the application was served on all of the eight Te Tau Ihu iwi and all iwi were considered as part of the public notification.

6.35 The relevant trustees and any member of the relevant iwi may, as evidence of the iwi's association with the "statutory area", cite the statutory acknowledgement that relates to that area in submissions to, and in proceedings before the consent authority concerning activities within, adjacent to, or directly affecting the "statutory area".

6.36 Section 2.6 of the Introduction to the statutory acknowledgements states that the content of a statement of association or statement of coastal values is not binding as fact on the consent authority; however, the consent authority may take the statutory acknowledgement into account.

Submissions

6.37 The submissions are considered as other matters under s104(1)(c).

Other considerations under s104

6.38 In regard to other considerations under other subsections, the proposed activity

a. is affected by s 124 (subs (2A)[6]),
b. does not engage the s 104 considerations under the Marine and Coastal Area (Takatu Moana) Act 2011 (subs (3)(c)(iv) – (v)),
c. involves a discharge of contaminants (s 107)[7] but does not involve a water conservation order (s 217), or any other regulations (subs (3)(c)(i) and (iii)).

Section 105– discharges of contaminants

6.39 As the proposed activities involve discharge permits or coastal permits to discharge contaminants,[8] the consent authority must also have regard to:[9]

(a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and

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6 Accordingly, "… *the consent authority must have regard to the value of the investment of the existing consent holder*".
7 Under s 104(3)(c)(i) "*A consent authority must not - … (c) grant a resource consent contrary to – (i) section 107…*""
8 Specifically, any permit "*to do something that would contravene section 15 or section 15B*"
9 Section 105(1) RMA

(b) the applicant's reasons for the proposed choice; and

(c) any possible alternative methods of discharge, including discharge into any other receiving environment.

6.40 Unless falling within specified exclusions, a consent authority must not grant resource consent.

Section 107 – Restrictions on certain discharges

6.41 The proposed activity involves a permit to do something that would otherwise contravene section 15 or section 15A, and in this case allowing the discharge of a contaminant or water into water [10] / onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water.

6.42 Unless the discharge of contaminants falls under specific exceptions, a consent authority must not grant the resource consent under the following circumstances:

if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

(c) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:

(d) any conspicuous change in the colour or visual clarity:

(e) any emission of objectionable odour:

(f) the rendering of fresh water unsuitable for consumption by farm animals:

(g) any significant adverse effects on aquatic life.

6.43 A consent authority may include conditions requiring the holder of the permit to undertake such works in such stages throughout the term of the permit as will ensure that upon the expiry of the permit the holder can meet the requirements of section 107(1) above, and of any relevant regional rules

6.44 The application is not applying to discharge contaminants to water, only to land, and they are unlikely to give rise to the matter in s 107(1)(c)-(g).

Section 108 – Restrictions on certain discharges

6.45 Section 108(2)(e) of the RMA allows consent authorities to impose condition(s) of consent that require the best practicable option (BPO) to control any adverse effects caused by a discharge. The BPO for the discharge of contaminants, is defined in section 2 of the RMA as:

[10] Section 107(1)(a) RMA

Best practicable option, in relation to a discharge of a contaminant or an emission of noise, means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to:

(a) the nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and

(b) the financial implications, and the effects on the environment, of that option when compared with other options; and

(c) the current state of technical knowledge and the likelihood that the option can be successfully applied.

6.46 Section 108(8) of the RMA restricts the requirement for BPO to the:

most efficient and effective means of preventing or minimising any actual or likely adverse effect on the environment.

6.47 When applying the efficiency and effectiveness test, the consent authority needs to consider the efficiency from the Council's and community's perspective, as well as the applicant's viewpoint. Requiring the best practicable option can still provide flexibility to enable change, provided the effects remain the same or decrease.

7 Key Issues

Introduction and background

7.1 From the matters set out in the Sections above, I consider the key issues with this application to be:

a. Odour control

b. Discharge of wastewater to water and water quality

c. Effects on Land/soil

d. Effects on the coastal marine area

e. Term of the consent

f. Alternatives BPO

g. Cultural effects

h. Global warming / sea level rise / long term suitability of the location

7.2 All wastewater treatment plants generate biosolids as part of the treatment process removing the solids from the liquid. Those solids are then treated physically and chemically to produce a semisolid, nutrient-rich product known as biosolids. The terms 'biosolids' and 'sewage sludge' are often used interchangeably.

7.3 Current guidelines are dated being the 2003 Guidelines for the Safe Application of Biosolids to Land . They are currently being updated. Communication on the 24 Feb 2022 with Dr Maria Gutierrez-Gines from ESR who is finalising the guidelines states the following:[11]

> *The new guidelines are pretty much finished. What a group of us (Water NZ, ESR, MoH, MPI, Watercare, WasteMinz) are working in at the moment is re-writing them in a more simplified way, because in their current state it is very hard to understand what you are supposed to do. However, all the information is there and I use them all the time for taking science decisions.*

7.4 I have used this revised draft guideline to guide me through this application.

7.5 When wastewater is applied to land a whole series of physical, biological and chemical actions take place. The soil first acts as a filter to strain out suspended soils. The remaining pathogens and chemicals are broken down biologically or become absorbed into the soil. Some of the material is used by plants, and the remainder slowly percolates through the soil. The result is the wastewater is further treated by applying it to ground.

Issue 1 - Odour control

7.6 Biosolids emit a distinctive odour. The odorous compounds that are generated and detected most often are ammonia, amines, and reduced sulphur-containing compounds. Meteorological conditions such as wind speed and direction, relative humidity, and temperature can impact nuisance odours. The presence of biosolids odours does not mean that the biosolids pose harm to human health and the environment.

7.7 The applicant has provided an assessment of the odour effects in Appendix L of the application. I will not repeat that assessment here.

7.8 The Council has had numerous odour complaints, however it is very difficult to tell if they are coming from the wastewater treatment plant or the biosolids application on the Island. In the period January 2018 to March 2020, 33 individual complaints have been received that can be definitely ascribed to odour from the Bell Island WWTP and associated activities. The application states that 13 complaints were "probably" linked to biosolids application and of those 13, five cases were linked to biosolids application on Moturoa / Rabbit Island

7.9 There has been significantly more recreational use in the past 10 years. The use of the island is changing, with a popular cycle route and trail running becoming more popular.

7.10 There are two separate companies involved with NRSBU: Nelson Marlborough Waste who currently undertake the biosolids application, and Nelmac who run the Wastewater treatment plant on Bell Island. They have been known to refer complaints to each other, making compliance checking difficult.

[11] https://www.waternz.org.nz/Article?Action=View&Article_id=1212

7.11 Odours have the potential to cause significant adverse effects on people's lives and wellbeing. The range of adverse effects it can cause varies significantly, as does people's sensitivity, which can cause conflict around perception and severity of effects. Therefore, it is important to provide an objective and consistent framework to assess and manage odour.

7.12 The general principle for odour control is 'internalisation', this states that those who create adverse effects must confine them within their own sites rather than force society to bear the burden of dealing with them. This principle has its origins in common law associated with property rights and nuisances. While case law is evolving, and practitioners should seek to apply the latest development in law, seven general principles have developed from High Court decisions for considering how to mitigate odour effects:

a. In every case activities should internalise their effects unless it is shown that they cannot do so.

b. There is a greater expectation of internalisation of effects of newly established activities than of older activities.

c. Having done all that is reasonably achievable, total internalisation of effects within the site boundary will not be feasible in all cases and there is no requirement in the RMA that that must be achieved.

d. That the test for odour is objective (ie, reasonable person test).

e. That there is a duty to internalise adverse effects as much as reasonably possible.

f. That it is accepted that in respect of odour the concern is to ensure that odour levels beyond the boundary are not unreasonable (being the same as offensive or objectionable or significant adverse effects).

g. That in assessing what is reasonable one must look into the context of the environment into which the odour is being introduced as well as the planning and other provisions (location).

7.13 Odour is an effect of an individual's perception. The first step to successfully managing odour, therefore, is to build a positive relationship with the community experiencing the odour effects. In doing so, the importance and benefits of open, honest communication cannot be overstated. The applicant has volunteered community meetings, this is endorsed.

7.14 The meteorology on the Waimea Inlet is complex. The site will be subject to katabatic winds during the night and sea breezes during the day. The wind direction will turn 180 degrees in a short time period. Additionally, Nelson experiences significant periods of low wind speed, this makes using meteorological monitoring from another location (eg, Nelson airport, TDC Richmond office building or the Richmond racecourse) problematic when dealing with complaints. The addition of a Meteorological station has been included in the draft conditions of consent.

7.15 The key odour discharge is related to the application of biosolids, basically muck flying around with lots of surface area interacting with the atmosphere. Plus a small odour discharge at the

storage area (BAF). On the ground management is likely to be the most efficient way to manage this, which is best articulated via an Odour Management Plan.

7.16 I agree with the summary from the applicants Appendix L

7.17 The standard "no objectionable or offensive" odour condition along with a robust, detailed and regularly reviewed stand-alone Odour Management Plan (or dedicated section within the Biosolids Management Plan) are recommended as consent conditions that could be applied to the new discharge to air permit to ensure that the minor adverse environmental effects generated by the biosolids operation are reduced to less than minor over a new consent term

7.18 Odour monitoring using an independent person is conditioned in the Wastewater treatment plant consent and has been volunteered by the applicant. I agree this requirement should also be included in this consent.

7.19 A general odour condition was volunteered by the applicant, I have revised this as I consider that it was too lenient, the revision is underlined below:

> *There shall be no discharges to air from the biosolids application activity or the BAF that results in an adverse effect that is offensive or objectionable beyond the line of Mean high water springs around the perimeter of Moturoa / Rabbit Island <u>or the public reserve on the front of Moturoa (additional wording is underlined)</u>*

Issue 2 - Discharge of wastewater to water and water quality

7.20 The applicant is proposing to discharge biosolids to land. The biosolids which contain 96 per cent water and about 4 per cent solids are mostly liquid, with an average total solids (by gravimetry) concentration of 15 g/L. This concentration of solids varies, and my understanding is that they aim to keep the biosolids quite fluid to allow them to be pumped. The liquid used is treated effluent and would otherwise be discharged to water.

7.21 The soils on the Island are very low in nitrogen and this is a key limiting factor for tree growth as shown by the work that Scion has undertaken with pine tree productivity. Nitrogen is typically contaminant of concern for groundwater and there are limits specified in the proposed conditions of consent for nitrogen.

7.22 Tonkin and Taylor have modelling the Nitrogen levels. The modelling has indicated that peak concentrations of nitrate-N in groundwater at the point of discharge will be approximately 18 mg/L. However, this short-lived discharge is predicted to be reduced to approximately 0.00035 mg/L at the Waimea Inlet, based on a conservative assessment of mixing in the estuary. Peak concentrations at the point of discharge are likely to be lower where application occurs further from the coastal margin.

7.23 Phosphorus concentrations in treated soils are within background ranges reported in New Zealand and a detailed risk assessment of phosphorus is not considered to be necessary

7.24 As part of these consents, the applicant is not proposing any discharge biosolids to water. However, if the nutrients are not applied to land, they will be discharged to water as part of the NRSBU discharge on the outgoing tide.

7.25 The application of biosolids to land allows for additional treatment via the soil profile. I consider the adverse effect of discharging the biosolids to land to be significantly less than discharging the liquid component to water. Subject to conditions of consent the effects on the environment are no more than minor.

Emerging contaminants

7.26 The report on emerging organic contaminants (EOC) (Appendix F of the application for the Bell Island consents) concluded that the concentration of EOCs detected in the WWTP treated wastewater were generally within the range of concentrations reported in treated wastewater discharge from other WWTPs in New Zealand. Overall, the results indicate that the risk of EOCs in the treated wastewater can be considered negligible.

7.27 Condition 19 has been volunteered by the Applicant. This condition includes the monitoring of some key organic compounds.

> *Each year, a composite sample shall be monitored for the following organic compounds: Total polychlorinated biphenyls (PCBs); nonyl phenol and ethoxylates (NP/NPE); phthalate (DEHP); linear alkydbenzene sulphonates (LAS); Tonalide and Galaxolid.*

7.28 This condition concentrates a few contaminants as indicators, and the annual monitoring should be adequate to determine if there are any changes.

Public health

7.29 The class A biosolids produced at the Bell Island Wastewater Treatment Plant are subject to treatment processes that significantly reduce volatile organic matter and eliminate pathogens to the extent that they are not considered to pose a risk to human health or to adversely affect other organisms.

7.30 There can still be a significant odour from the biosolids, however given the low number of complaints made, the large area and the separation from dwellings, the effect on public health from the odour is considered to be no more than minor.

Issue 3 - Effects on the land

7.31 Scion have been involved with research associated with the application of biosolids on Moturoa Island and they are well placed to provide a report on the effects on the land and soil.

7.32 The Scion report (Appendix G) concludes the following

> • *Repeated applications of biosolids improved soil fertility, by increasing soil organic matter and available nutrients (e.g. N, P) over time, in both the top and sub soils.*

• Overall, soil pH was maintained above 5, although it gradually decreased with repeated applications of biosolids over time and dropped below 5 at some sites on occasion.

• Despite the slow accumulation, the concentrations of Cd, Cr, Cu, Pb, Hg and Zn were below the soil limits defined the NZ Biosolids Guidelines 2003 and the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (MFE 2012).

• The average concentrations of As and Ni were below the NZ biosolids guidelines soil limits but the maximum values for As and Ni were higher than those soil limits on occasion

• The existing application rates of 300 or 450 kg N ha every 3 years depending on the stand age have been justified as appropriate and should be retained. Improved soil monitoring regime is warranted environment (e.g. soil and groundwater).

7.33 I conclude that the effects from applying the biosolids to land has not resulted in a significant effect, and the regular monitoring that has been proposed will protect the soil/land.

Ecological effects from nutrients

7.34 The pine forest the key driver for the ecology of the island, this is not being consented here, only the effects of applying biosolids to land.

7.35 The applicant has provided a report of the possible effects on Lizards. This concluded that biosolids is likely to have a negligible ecological effect on lizards. This position is further reinforced by NRSBU having discussions with Department of Conservation (DOC). The advice received from DOC is that a Wildlife Act permit is not required for this project as DOC regards it not necessary to relocate lizards that may be present within the biosolids application area.

7.36 Ornithologist David Melville provided a report on birds (Appendix J). He concludes that the continuation of biosolids being applied to land should not result in adverse effects on any "threatened" or "at risk" bird species, provided that the operation is subject to consent conditions similar to those currently imposed.

7.37 The ornithologist findings are important when assessing the application against Policy 11 of the NZCPS (see below). This is relevant because of Policy 11 Indigenous biological diversity of the NZCPS as this policy uses the word avoid. As it is an "avoid" policy this would result in this application being declined if there was an adverse effect on key species.

a. avoid adverse effects of activities on:

i. indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;

ii. taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;

iii. indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare;

iv. habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;

v. areas containing nationally significant examples of indigenous community types; and

vi. areas set aside for full or partial protection of indigenous biological diversity under other legislation; and

Issue 4 - Effects on coastal marine area

7.38 The applicant engaged the Cawthron Institute (Cawthron) to assess the actual and potential effects of the land application of biosolids on coastal water quality, including the ecology of the intertidal and subtidal receiving environment of Waimea Inlet.

7.39 They concluded that the class A biosolids produced at the Bell Island Wastewater Treatment Plant are subject to treatment processes that significantly reduce volatile organic matter and eliminate pathogens to the extent that they are not considered to pose a risk to human health or to adversely affect other organisms.

7.40 The estimated potential concentration of 18 g/m^3 of nitrate-N in groundwater from Moturoa / Rabbit Island at the point of discharge into the coastal environment suggests a biosolids contribution of approximately 3 per cent to the reported mean annual cumulative nitrogen loads to Waimea Inlet from its catchment. The estimated contribution from biosolids to the nitrogen load to Tasman Bay from its catchment is 0.8 per cent. Most of the Nitrogen in Tasman Bay comes from upwellings from the deep water in Cook Strait.

7.41 Cawthron concluded that:

> *"Overall, the results of the monitoring programme indicate that application of biosolids to land on Moturoa / Rabbit Island has less than minor adverse effects on the enrichment or contaminant status of intertidal habitats around Moturoa / Rabbit and Rough islands, nor have any effects on the sediment-living fauna been identified."*
>
> *The adverse effects are predicted to be less than minor, no additional mitigation is recommended; but the existing buffer zone to protect the coast should be maintained to minimise the risk of runoff entering the coastal waters during high rainfall events at the time biosolids application.*

7.42 Thus, the proposed consent conditions have included the existing buffer zones and an appropriate application rate.

7.43 It is considered that due to the nature and rate of the discharge, the adverse effect on coastal water quality resulting from the discharge of treated wastewater to land will be less than minor. In fact, the discharge to land will result in a slight improvement in coastal water quality due to the reduction in the volume of wastewater being discharged directly into the estuary.

Issue 5 - Term of the consents

7.44 Most of the submissions referred to the term of consent. Several submissions stated that the term applied for was unacceptable or excessive. Suggestions of alternative terms of consent ranged

from 10 years to 15 years or to coincide with the Best Island WWTP discharge consent expiry in 2040.

7.45 While the RMA provides for maximum terms of consents, it is silent on the specific considerations a council must or may turn to when deciding on the duration of consents. While a consent authority has discretion, in considering whether a shorter duration achieves the sustainable management purpose of the RMA, the following circumstances (non-exhaustive) may be relevant when contemplating a shorter term of consents (ie, 15 years) than the maximum 35 years:

a. -activity is one which generates fluctuating or variable effects, or

b. depends on human intervention or management for maintaining satisfactory performance, or

c. relies on standards that have altered in the past and may be expected to change again in future.

7.46 Our knowledge of global warming and sea level rise is advancing quickly. However, the actual rate of sea level change is relatively slow in relation to the life of the consent, and the natural variability is large. The predicted sea level change over the proposed 35-year consent term is 50 centimetres. We are likely to see more significant tidal inundation events and, from previous experience, these are likely to kill low lying production forest. This results in these areas being taken out of production and allowing coastal ecological communities to move into these areas. It is very unlikely that this flooding with saltwater would be while the biosolids were fresh given the long rest time between applications, thus there is unlikely to be any contamination of water should areas be influenced by sea level rise.

7.47 The NRSBU discharge from Bell Island was granted a 20-year consent term. The Panel stated "*there are significant risks in predicting water quality effects and climate change beyond 20 years.*" I consider the risks associated with the discharge of biosolids to land to be lower than the NRSBU discharge to water and associated facilities on Bell Island. For this application, there is a proposed review every six years and biosolids are only applied every few years to each piece of land.

7.48 There will be a need to dispose of biosolids from the processing of waste for the wastewater that currently goes to the NRSBU Plant. If / when the plant is moved disposing of biosolids to land is a better solution that landfilling them. It is a beneficial use and it is likely to result in significantly lower greenhouse gas emissions and leachate compared to the material being landfilled.

7.49 I recommend that these consents are issued for 35 years. The monitoring and regular reporting should pick up issues long before they become critical.

7.50 It should be noted that the term of consent, and the ability of a consent authority to review conditions of consent, provide different safeguards. A detailed review condition has been included in the draft conditions of consent to allow for the fast-changing nature of the regulatory environment. These changes include the Three Waters Reform, changes to the way water is managed, the NES / NPS and possible RMA changes, and specifically the proposed Climate Change

Adaption Act. It is quite possible that NRSBU will be taken over by a new Three Waters Entity and they will be the consent holder in the not-too-distant future.

Issue 6 - Alternatives /BPO

7.51 Several submissions were concerned that there had not been adequate consideration of the alternatives to disposing of the biosolids to land.

7.52 A report from Tonkin& Taylor titled the Moturoa / Rabbit Island Biosolids: Alternatives Assessment has been provided as part of the application (Appendix E). This report suggests that the current practice of applying biosolids via slurry is in line with best practice.

7.53 There is a large scale vermiculture (worm farm) operation in the central north Island that take biosolids and waste from paper making, producing a soil conditioner that is sold to farmers. Unfortunately, we don't have a large waste stream of this nature to make vermiculture practical. Other operations dry the biosolids out before applying them to land, this is energy intensive and still gives a similar outcome.

7.54 The beneficial use of biosolids is considered by many to be best practice. It is significantly better than landfilling dried biosolids, landfilling is the predominant disposal mechanism for most of the Wastewater Treatment plants around New Zealand

Issue 7- Cultural effects

7.55 The applicant provided a Cultural Impact Assessment (CIA) after applying for the consent. The Cultural Impact Assessment Report was prepared by Aneika Young at Te Aranga Environmental Consultancy. The recommendations of the CIA are discussed in more detail further on below.

7.56 The applicant provided the application and then the CIA. They have chosen not to amend the application in light of the recommendations of the CIA.

7.57 Water is taonga, or 'treasure', to tangata whenua. Water and bodies of water have their own mauri (life force; the binding force between the physical and the spiritual), and it is important to protect the mauri and life sustaining qualities of water so their descendants may use it. Water bodies are also integral to Māori self-identity and mana. Māori have a special role as kaitiaki (guardian) of local waterways, a role inherited through whakapapa (genealogy). This is recognised specifically in parts of sections 6 and 7 of the RMA.

7.58 When wastewater is discharged into waterways, the mauri of that waterway is also degraded. Hence, tangata whenua find it culturally offensive for wastewater to be discharged into any body of water. Thus, any discharge to water creates a significant cultural challenge. Where possible the general approach now across New Zealand is to discharge treated wastewater to land. The applicant goes some way towards this with the irrigation of treated wastewater to land but there is still a large residual discharge that is going to water.

7.59 The Draft (2017) biosolid guidelines state the following

4.9 protection of "sensitive" areas. Organic materials and derived products, particularly those containing biosolids, should not be applied within, or in the vicinity of sensitive areas such as wāhi tapu (sacred places), archaeological sites, urupā (burial sites), potable water sources, locations associated with wild-food harvest or resource collection, wildlife habitats, areas of importance from a biodiversity perspective and sites that support community recreational, social or Māori cultural activities."

7.60 My cultural understanding is limited; while I grew up in New Zealand I am not Māori. I have worked on several wastewater treatment consents, and I understand that Māori have a cultural objection to discharge of human wastewater to water, as most people do. Traditionally Papatuanuku (Earth, Earth mother and wife of Rangi-nui - all living things originate from them) can restore the Mauri of water. Humans possess tapu which extends to body parts and waste. Human waste is Tapu but Tapu and noa are not fixed and can change through time – i.e. latrine sites, over time, becoming sites for productive gardens (Noa means ordinary, common or free from restriction or the rules of tapu). Established relationships convert chemicals from tapu to noa. In western speak or scientifically these are bio- and physico-chemical transformations of chemical compounds. I completely agree that Māori view biowastes as something that should be responsibly managed, and culturally appropriate disposal schemes include a final land contact stage.

7.61 Land disposal of treated wastewater is an obvious solution; however, this results in numerous technical issues such as treatment to an appropriate standard for the use, the land area required to discharge the water, times of the year when the soil is saturated. Viewed through a cultural lens, the discharge to land in the vicinity of sensitive areas such as wahi tapu (sacred places), archaeological sites, and urupā (burial sites) makes balancing this difficult. This is made more problematic if these areas are not formally identified.

7.62 The applicant provided a CIA which reflects a holistic view of the world. This presents a conflict of scope. The scope of this application is quite limited, so it makes it challenging to respond to the issues / recommendations of the CIA as some of them are much wider than the scope of what is being considered for this section 42A report. The following issues / recommendations form part of the CIA:

a. Protection of ecosystems and biodiversity "Ngā taonga tuku Iho"

b. Protection of wāhi tapu areas

c. Lack of cultural mapping

d. Customary use and access to māhinga kai

e. Management of biosolid facility

f. Degradation of waterways at Moturoa and Waimeha Estuary

g. Climate change

h. Future development and growth

i. 35-year term for resource consent

j. Cultural health index monitoring programme

7.63 The CIA is taking a holistic view of the Island which is significantly wider than the scope of this resource consent application. The key issues 1-7 and 10 of the CIA are dealt with in detail in the Moturoa / Rabbit Island Reserve Management Plan and the discussions in the CIA mirror the Management Plan objectives and policies. This mirroring is to be expected, as iwi were involved with the formulation of the Management Plan.

7.64 The Management Plan is to be implemented with a series of operational plans. Council staff are in discussions with iwi and this work is ongoing. As I have noted above, there is a cashflow from the Island to pay for the work, with 10 per cent of the profit from the island forestry to spent on it. There is currently a capacity issue from all parties involved in k to undertake the work.

7.65 NRSBU have provided a response to CIA. I will not repeat this response here.

7.66 I will try to address each point raised in the CIA in turn with respect to this application

a. Protection of ecosystems and biodiversity "Ngā taonga tuku Iho"

7.67 The CIA expresses that

> *"there is a lack of protection and recognition of, and significant loss of ecosystems and biodiversity values important to Iwi, as a result of inappropriate historical activities, practices and management of Moturoa and the associated motu and Waimea estuary. The modification and development of the islands has impacted on the ecological integrity of the Islands. The past customary activities, harvest and use of indigenous flora and fauna have been reduced over the last 30 years. The protection of ecosystems and biodiversity including the surrounding estuarine ecosystems, wetlands, tōtara and native flora stands, indigenous flora and fauna species and nesting sites is therefore important to Iwi to protect and enhance cultural activities and community wellbeing."*

7.68 The use of the island to grow pine trees has significantly changed the ecosystem and biodiversity of the island. This factor is outside the scope of this consent application.

7.69 The CIA expresses that:

> *"A major concern for Iwi is the restrictions (and in some cases the prohibition) on the ability to take kaimoana and other customary food resources, due to their scarcity and pollution of the estuaries, wetlands and beaches of Tasman Bay/Te Tai-o Aorere".*

This discharge of biosolids to land is reducing the volume of wastewater being discharge to water from the Bell Island WWTP, so it should not be adding to the risk to kaimoana in and around the Inlet

b. Protection of wāhi tapu areas

7.70 The CIA expressed that there is a lack of protection and recognition of Māori cultural heritage and values, and these values are at increased risk from continued land use activities, practices and management. Past coastal development and activities in and around land and water resources have led to degradation, damage and destruction of wāhi tapu, cultural heritage and sites of significance to iwi.

7.71 There are six recorded archaeological areas protected on Moturoa as highlighted on the applicant's map. NRSBU has provided a buffer zone around these areas and no discharge to land is undertaken in those areas. There are also known cultural heritage areas, which have not yet been uncovered and will be subject to accidental discovery protocols. It is important to recognize that depending on the find, there will be cultural rituals and protocols to observe to bless the area to ensure the spiritual safety of people.

7.72 Conditions about buffer zones and cultural mapping are included. I fully accept that there are sites that are currently not mapped on the island and there needs to be a process to ensure that these are recognized and protected over time.

c. Lack of cultural mapping

7.73 There is extensive archaeological information and records for Moturoa and multiple maps that have been developed over the years. However, there is limited cultural narrative story maps to inform the Iwi cultural layers of information such as māhinga kai areas and urupā. There is an absence of cultural narrative story maps in planning documents and interpretation panels to inform the public of the cultural significance of Moturoa to Iwi and to protect wāhi tapu areas.

7.74 This mirrors the Management Plan for the Island and I have had discussions with the Reserves staff and work is being undertaken to address this concern.

d. Customary use and access to māhinga kai

7.75 There is a lack of protection and recognition of, and significant loss of Māori māhinga kai values as a result of inappropriate historical activities, practices and management of Moturoa, the associated motu and Waimeha estuary. The destruction of māhinga kai is outlined as a key issue in the Moturoa Reserve Management Plan. The loss of access to māhinga kai areas prevents Iwi from looking after the ecological integrity of māhinga kai areas and associated indigenous species. It also prevents Iwi from maintaining their traditional customs and practices associated with Moturoa and the surrounding natural environment, and the transmission of Mātauranga Māori between generations.

7.76 The Biosolids Application Facility activity and the discharge to land of high quality biosolids are not considered compatible for the collection of food at traditional locations in and around Moturoa because of the potential for contamination to māhinga kai areas and to people. Although very few māhinga kai areas exist today, they are still an important part of whānau and hapū life. It is

important to Iwi kaitiaki responsibilities and obligations to protect, enhance and manage the few remaining māhinga kai areas.

7.77 The effect of the activity on māhinga kai outside of the application area is considered to be very low, and the activity is unlikely to cause an adverse effect on gathering food. More details are required to determine if there are māhinga kai areas within the application area.

e. Management of biosolid facility

7.78 The NRSBU BAF holds biosolids which are a product of the wastewater treatment process from Bell Island and applies the high quality biosolids to land in the PFL Olsen Ltd forestry blocks on Moturoa. A 50 metres buffer zone in line with consent conditions separates the discharge to land areas and the outer area of Moturoa. Although the plant is managed well, Iwi are concerned that there may be potential risks from the increase in treated waste loads to the facility and the potential of biosolids spilling out into the environment in the event of the system being overloaded.

7.79 Iwi also have concerns that the loads (volumes) of current and future application to land may not align to the land area required from rotation and harvest of forestry blocks. A coordinated approach between Tasman District Council, PFL Olsen Ltd, Nelson Marlborough Waste (Sepclean Ltd) and NRSBU is required to ensure current and future load limits are managed appropriately within the current forestry block footprint.

7.80 Although the scope of this CIA report is related to the proposed discharge of biosolids to land, Iwi also identified issues related to the management of forestry, harvest practices and the protection of wāhi tapu areas. This concern is addressed the Motorua / Rabbit Island Management Plan and beyond the scope of this application.

f. Degradation of waterways at Moturoa and Waimeha Estuary

7.81 The CIA states

> *"As stated previously the degradation of the mauri of waterbodies is a key for Iwi. The cumulative effects of the potential for overloads on the wastewater system and discharge of biosolids and contaminants such as trace and heavy metals; and discharges from other industries to the Waimeha Inlet, may impact on the mauri of coastal marine environment and waterways.*
>
> *The location of the WWTP on Bells Island and the Biosolid facility on Moturoa has been an issue for iwi for a long time because of the incompatible activity of wastewater practices and management and māhinga kai management and the impact on the ability for Iwi to harvest kai from the land and coastal waters. These issues are referred to in other CIA reports and historical submissions to NRSBU resource consent renewal applications.*
>
> *Iwi aspirations are to move the Biosolids Application Facility Facilities away from the marine coastal areas and freshwater estuaries and rivers that support māhinga kai areas. However, a transitional approach is required to take into account a range of factors including growth and development in Nelson and Tasman, cost, technology and land availability."*

7.82 Reports provided by the applicant show the effects on water are very small. Discharging of biosolids to land to land will reduce the impact of the discharge of treated wastewater the CMA from Bell Island.

g. Climate change

7.83 The CIA comments on climate change:

> *"Climate Change is a significant factor that must be taken into account for all regional infrastructure located in the coastal marine areas and near coastal environments due to the potential for low lying coastal areas to be inundated with sea level rise, heavy rainfall events, floods and cyclones. Iwi are concerned that climate change may accelerate impacts on BAF infrastructure if they continue to be located at Moturoa and Bells Island and that NRSBU have not taken this into account in future planning and long-term adaptive management*

7.84 Climate change is discussed as a specific issue later in this Section 42A report.

h. Future development and growth

7.85 Iwi are concerned that Councils planning projections for increased residential and industrial development have not taken into account the potential increase in loads on current infrastructure facilities and the staging of maintenance and upgrade requirements that may be required to meet demand. A key issue is that the BAF infrastructure at Moturoa and Bell Island may not be able to cope with the predicted load increase to the system because the NRSBU planning and future load predictions are out of sync with the development taking place on the ground. There is the potential for increased pressure on the current infrastructure and potential for additional impacts on the natural environment

7.86 The applicant has provided some information on this as part of the application. It is unclear if the disposal area on Moturoa / Rabbit Island is large enough and the applicant should provide further commentary on this.

i. 35-year term for resource consent

7.87 The NRSBU was recently granted a renewal of their resource consent for a further 35-year term for the biosolids activity. The resource consent conditions provide for a five-year review of the activities, with respect to consent conditions of review of monitoring and technology. Iwi do not agree with 35-year terms for resource consents because infrastructure continues to be located on or near the coastal marine environment and freshwater bodies.

7.88 The CIA recommends a shorter resource consent term of 15 years to enable the applicant to evaluate and assess wastewater practices and management to restore and deliver positive net benefits to the environment. The shorter term is a response to Iwi grievances over the wider historical discharge of raw sewerage (not biosolids) from Bell Island into the Waimea estuary over the last 70 years and Iwi having limited decision-making powers over infrastructure. Although the grievances are in relation to the Bell Island WWTP discharge to coastal water there is still a concern from iwi around human effluent activities of any sort being undertaken close to the coastal marine

environment. It is also an incentive to align with the Iwi position for wastewater infrastructure to be located away from coastal marine environments and freshwater bodies, and provides an end point and target to stage the relocation of infrastructure.

j. Cultural Health Index Monitoring Programme

7.89 There is extensive environmental monitoring data collected and independent specialist reports commissioned for the AEE Biosolids Application Facility. However, there is no Cultural Health Index monitoring or cultural baseline data from a Te Ao Māori perspective based on the state of Moturoa from past, present and future aspirations.

7.90 Iwi have concerns over the health of Moturoa, in particular the impacts on freshwater bodies, the coastal marine areas and terrestrial environments including soil health.

7.91 I have posed the question regarding CHI monitoring to other Regional Council Consent Managers, and from this I am not aware of any CHI monitoring that involves land. I can see what the iwi seek but I am unable to determine the nature of this CHI monitoring.

Issue8 - Global warming /sea level rise/ long term suitability of the location

7.92 Concern was expressed with the location of the biosolids application area, with the Island being low and subject to potential coastal inundation. Several submissions refer to global warming/ sea level rise and the long-term suitability of the Moturoa / Rabbit Island location for this activity.

7.93 In early February 2018 ex-tropical cyclone Fehi moved into the North Tasman Sea, and then combined with a trough moving in from the southwest. The resulting storm crossed New Zealand, causing extensive damage due to wind, rain and coastal storm surges. The Nelson region suffered damage in coastal areas. Ruby Bay flooded, Monaco (just across the channel from Bell Island) had seawater through homes and Nelson's waterfront venues, The Boat Shed Cafe and the Boathouse, were both closed following the storm surge that forced sea water through the buildings, causing significant damage.

7.94 After the-Fehi storm event, I had a conversation with Eric Vestapen (TDC coastal scientist) regarding what happened.. Maximum sea level during Fehi was about 3 metres at the 2016 benchmark on the Rabbit Island causeway (spring tide is about 1.75 metres). A significant number of trees on the Island died as a result of higher saltwater intrusion. Significant parts of the Island are well above this level.

7.95 In the next 35 years we expect about 30-50 centimetres of sea level rise, assuming the current predictions are accurate. This is likely to result in significantly more events of the magnitude of Fehi.

Positive effects of biosolids to land

7.96 Glass half full or half empty, biosolids can be seen as a resource or a problem. It is dependent on one's viewpoint.

7.97 Motorua/ Rabbit Island is well suited to the application of biosolids:

- Forests are often established on land that is degraded, highly disturbed or with low soil fertility;
- Biosolids have been shown to increase timber production;
- There is a reduced likelihood of contaminants entering the food chain;
- There is limited direct contact with humans; and
- Perennial growth allows for year-round application.

7.98 The application of biosolids to forestry has positive benefits in terms of providing a source of nitrogen fertilizer and improving forestry growth. Biosolids improves tree growth (by approximately 30 per cent) and increases economic returns that benefit the ratepayer and returns money to be spent on the Island to improve public and environmental outcomes.

7.99 The location is close to the Bell Island wastewater treatment plant and the associated transport / energy costs are low. It does not result in excess greenhouse gas production, both in processing the biosolids and the risk of methane emissions should the product be landfilled.

7.100 Applying biosolids to land increases the volume of effluent to land rather than discharging this into the Waimea Inlet.

Monitoring and reporting

7.101 The applicant has volunteered biosolids volume and quality conditions and a series of annual reporting conditions and a Six-Yearly Monitoring and Technology Review Report. I agree that the reporting needs to be undertaken on an annual and six-yearly cycle.

7.102 The level of uncertainty about an adverse effect can usually be significantly reduced by a well-designed monitoring or investigation programme. Such conditions can be combined with other conditions designed to address uncertainty, including a trigger and response condition and a review condition. The monitoring conditions are particularly important in this case as the term of the proposed consent is long and I am concerned about a specific adverse effect

7.103 In this situation where there is concern about preventing specific adverse effects, this normally requires monitoring/investigating and reporting conditions, then trigger and response conditions.

7.104 WIF have stated in their submission that the volunteered conditions do not cover remedial works before guidelines are exceeded. I agree that there is currently not a cascade in the conditions and this really sits outside of the annual and six-yearly reviews. The applicant should comment on this and provide wording on a condition that provides adequate triggers to avoid an effect that would be difficult to reverse, for example land contamination of heavy metals as opposed to bacterial contamination which will naturally reduce over time.

Biosolids Application Facility (BAF)

7.105 A five-year term is sought on the discharge permit for washdown water and stormwater at the BAF. This provides sufficient time for NRSBU to implement measures to capture and direct those discharges to holding tanks at the BAF.

7.106 Plans are in place to collect the stormwater and washdown water generated at the BAF, and to reuse that water in the biosolids operations by using it to flush out the holding tanks rather than the current practice of using potable supply.

7.107 Discharge of stormwater on to the Island is unlikely to have any noticeable effect in this location and will not result in any offsite flooding.

7.108 The current washdown water is contaminated with a small amount of biosolids but it is unlikely to result in an adverse effect that is more than minor, and the discharge is temporary in nature. I see no issue with granting this consent for five years.

Conditions

7.109 A proposed sets of conditions of consent are attached (attachment 3). I have taken the applicant's volunteered conditions and expanded on them where I consider it necessary. I have shown my changes using underlining and strikeouts.

8 Summary of key issues

8.1 The applications are bundled and considered as a discretionary activity. As discretionary activities, the consent authority must consider the applications in accordance with Sections 104 and 104B of the Resource Management Act 1991.

8.2 The receiving environments for both the discharge to air and the discharge to land are sensitive environments. This is evident from the assessment of the application and by the issues raised by submitters.

8.3 The applications involve discharges to air and land and the consent authority must have regard to the provisions of section 105 and shall not grant the applications if, after reasonable mixing, the discharge will give rise to all or any of the effects listed in section 107.

8.4 Minimising the cultural effects is important, and as our knowledge grows there is likely to be areas where the application of biosolids needs to stop.

8.5 The Motorua / Rabbit Island Management Plan is a key document, and it provides a holistic view of the community's aspirations for the island. It mirrors the issues raised by iwi and the CIA.

8.6 While climate change and sea level rise are important considerations in the application of biosolids, the consent provides adequate checks and balances with the monitoring and reporting to adapt the areas where biosolids are being applied accordingly.

8.7 The discharging of biosolids to land reduces the discharge to water from the wastewater treatment plant and is in line with best practice for the disposal/use of biosolids.

8.8 Overall, it is considered that, subject to appropriate conditions of consent, the discharges to air and land can be managed in a manner that does not cause significant adverse effects on the receiving environment. It is considered that the discharges will be generally consistent the policies and objectives of the New Zealand Coastal Policy Statement, Air Quality National Environmental Standard and Tasman Resource Management Plan.

8.9 Subject to the recommended conditions of consent with a 35-year duration, and taking into account the assessment provided with the application and from Council's experts, I consider that I am in a position to be able to make the recommendation below

9 Section 5 and recommendation

9.1 In considering recourse to Part 2 under section 104, it is appropriate and necessary to refer to it in certain circumstances, including:

a. If the relevant higher order policies of the NPS are equivocal and it is unclear from them whether consent should be granted or refused, or

b. If the TRMP as the relevant plan has not been competently prepared in accordance with Part 2, or if there is some doubt about that.

9.2 In this instance:

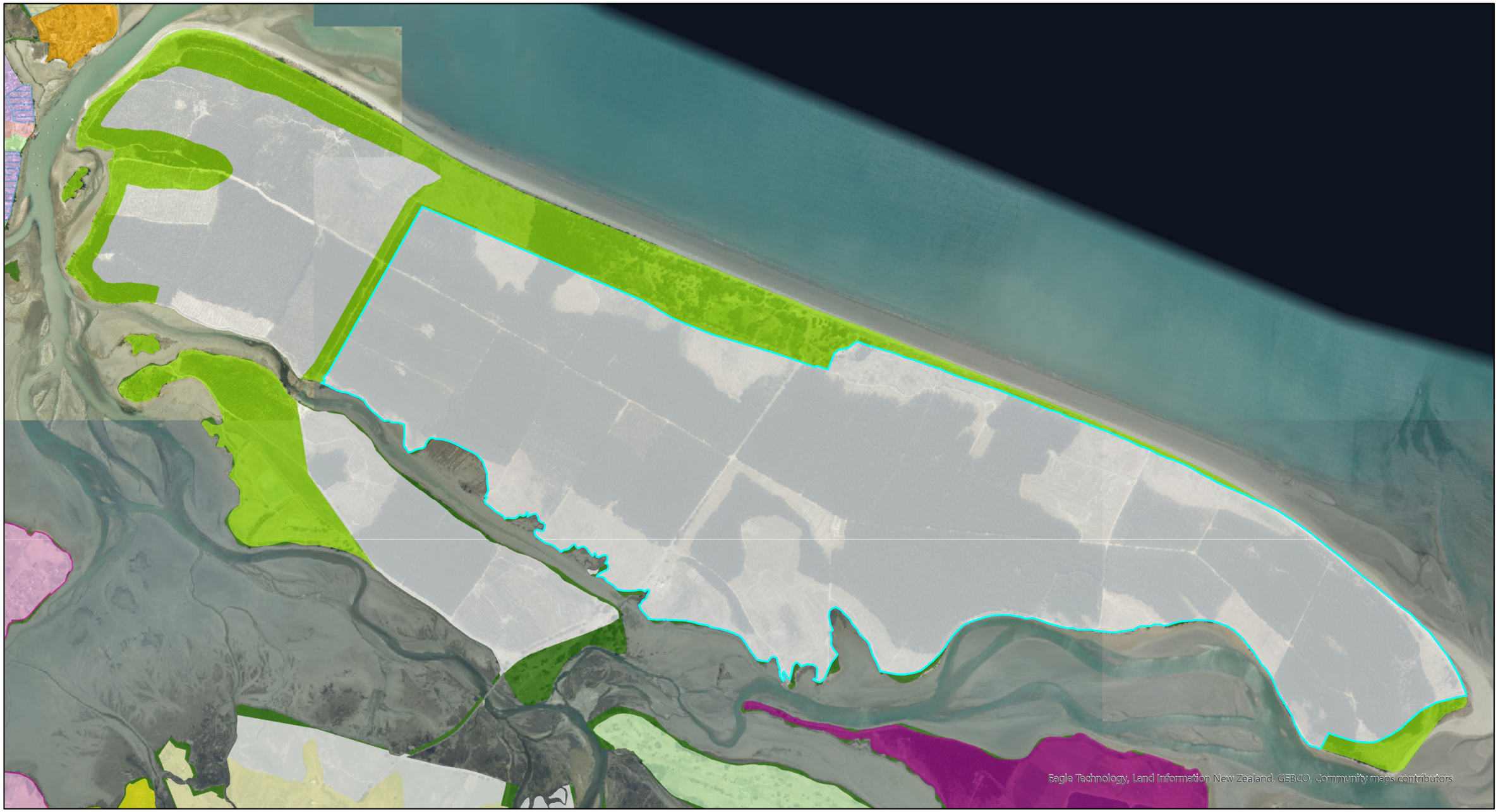
a. The TRMP is considered to have been competently prepared to promote the sustainable management of natural and physical resources in accordance with Part 2

b. While the TRMP does predate the NZCPS, the proposed activity is considered consistent with the relevant higher order policy in both statements.

9.3 As detailed in the Section 8.0 and for the above reasons it is considered in principle that it is open to the Commissioners, after hearing the evidence from all parties, to grant resource consent subject to appropriate conditions of consent. The above opinion is based on the application and information to date, and I retain open minds to subsequent evidence

9.4 Draft conditions are recommended for consideration if the Commissioners are of a mind to grant the applications applied for.

TRMP Zones and notations



May 4, 2022

Zones

- Commercial
- Conservation
- Open Space
- Recreation
- Residential
- Residential Coastal
- Rural 1
- Rural 1 Coastal
- Rural 2
- Rural 3
- Rural Industrial
- Rural Residential
- Tourist Services

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tasman district council
Te Kaunihera o te tai o Aorere

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TRMP Areas and cultural heritage

May 4, 2022

Cultural Heritage Sites
- 1-Precinct; 2a-Site (assessed); 2b-Site (not assessed)
- Cultural Heritage Precincts
- Cultural Heritage Site Extent

Cultural Heritage Sites 20m Buffers
- 2a-Site (assessed)

Grid Reference Sites
- 4b-unknown

- Mapua Development Area

Heritage Buildings
- Heritage Building - Heritage New Zealand
- View Points
- Coastal Environment Area
- Indicative Walkways
- Indicative Reserves
- Road Area

- Coastal Risk Area
- Mooring Area
- Services Contribution Areas
- Wastewater Management Area
- Significant Natural Areas

Land Disturbance
- Land Disturbance - Zone 1

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tasman district council
Te Kaunihera o te tai o Aorere

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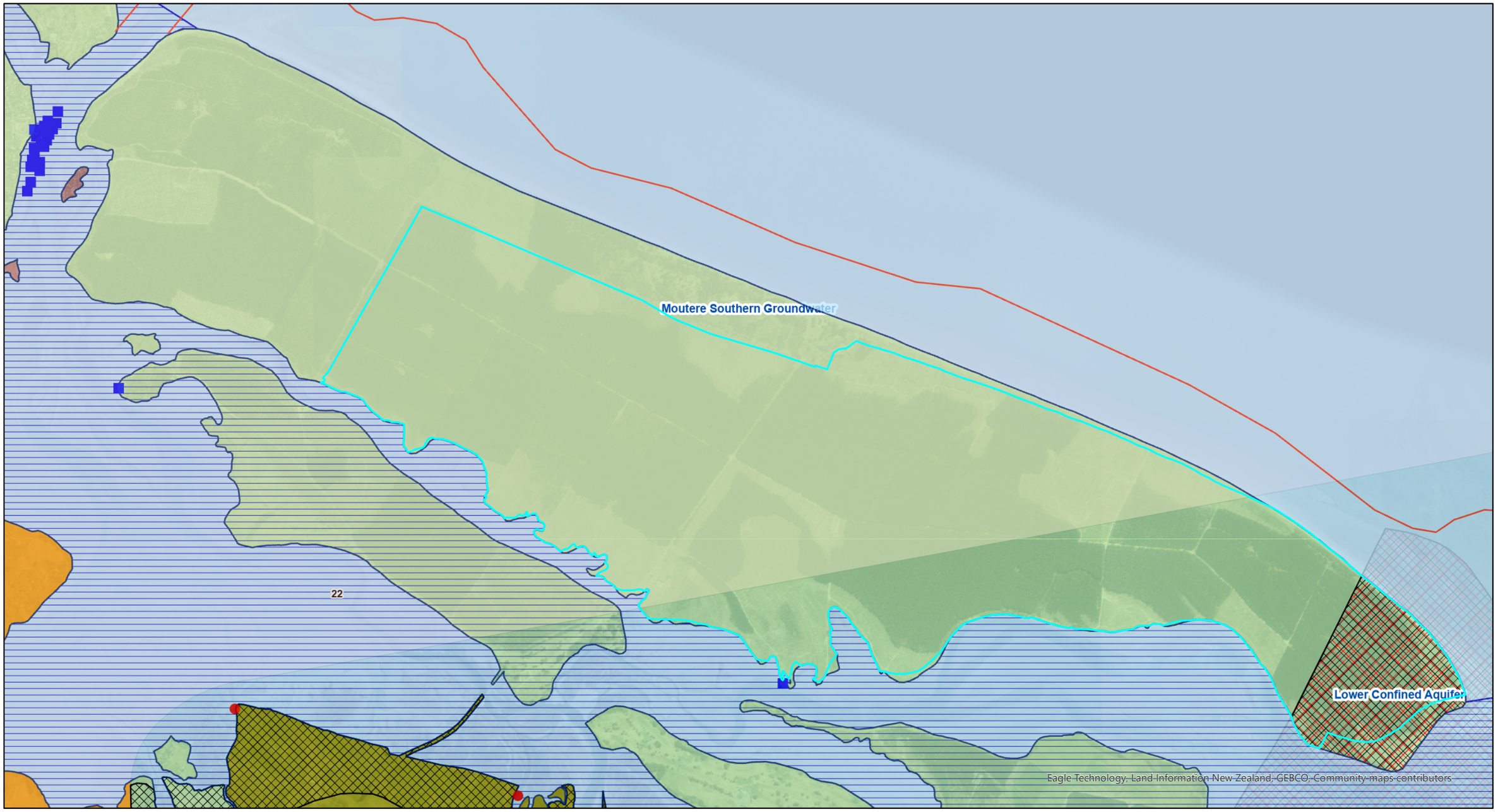
TRMP Coastal and Water Management



May 4, 2022

- TRMP Coastal Structures
- River Mouth
- Coastal Marine Area River Mouth Boundary
- Mean Low Water Spring
- Mean High Water Spring
- Natural Ecosystems
- Coastal Marine Area
- Coastal Margins

Confined Aquifers
- Lower Confined Aquifer

Water Management Soils
- Other Soils
- Mapua & Rosedale Soils
- Waimea Soils

Groundwater Zones
- Moutere Southern Groundwater

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tasman district council
Te Kaunihera o te tai o Aorere

The information on this map is prepared for indicative use only and is not intended for definitive legal, location or formal reference. This map was produced council's internal Localmaps viewer.

Hearing postponed. New date Tues 02 Aug 2022, Council Chambers at 9.00 am.

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TRMP GIS - NZAA sites

May 4, 2022

- NZAA site
- NZAA site accuracy
- NZAA site area

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Te Kaunihera o te tai o Aorere

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RESOURCE CONSENT APPLICATIONS RM200638 AND OTHERS

Activities authorised by the consents

RM200638	Discharge permit to discharge biosolids to land
RM200639	Discharge permit to discharge contaminants to air from application of biosolids to land
RM200640	Land use consent to operate and maintain the Biosolids Acceptance Facility, and associated activities for the application of biosolids to land.
RM200641	Discharge permit to discharge washdown water and stormwater to land from the Biosolids Acceptance Facility.

DRAFT CONDITIONS

Yellow includes highlighted references from draft provided by the applicant

Underlined shaded conditions are new conditions recommended by the staff report

To help in identifying changes to Applicant offered conditions, inserted conditions use 10A for example if inserted after 10 to avoid consequential renumbering.

General conditions

1. The Consent Holder shall ensure that the activities authorised by these consents are undertaken in general accordance with the information provided with the application titled "*Moturoa / Rabbit Island Biosolids Reconsenting*" prepared by Tonkin + Taylor dated August 2020. In the event there is any conflict between this application and any conditions of these consents, the conditions shall prevail.

2. The Consent Holder shall ensure all persons with responsibilities under these resource consents are provided a copy of the resource consents, and the Biosolids Management Plan in condition 11, and made aware of their responsibilities under these documents. For the avoidance of doubt those persons shall include the Moturoa / Rabbit Island forestry operator, and the biosolids application contractor and the Operations and Maintenance contractor for the Bell Island Wastewater Treatment Plant.

3. The term of resource consents RM200638, RM200639 and RM200640~~[all resource consents other than BAF stormwater/washdown]~~ is 35 years.

4. The term of resource consent RM200641 [BAF stormwater/washdown] is 5 years.

4A. Land use consent RM200640 is personal to the consent holder rather than attaching to the land.

[Comment – under section 134, section 9 land use consents normally run with the land. As the resource consents are integrally bundled, and for simplicity of administration as a single resource consent bundle, it's considered appropriate to specifically exempt the land use consent from the default statutory preumption]

5. The Council may, in accordance with section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of these consents annually between 1 November and 1 December for either of the following purposes:

(a) To deal with any adverse effect on the environment arising from the exercise of these consents which was not foreseen at the time the application was considered and which is appropriate to deal with at the time of review; or

(b) To require the Consent Holder to adopt the best practicable option to remove or reduce any adverse effect on the environment resulting from the exercise of these consents;

Advice note

The Council may, in accordance with section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of these consents:

(a) To enable standards set by a new rule(s) in any regional plan that has been made operative since the granting of these consents to be met;

(b) When relevant national environmental standards have been made; or

(c) If the information made available to the consent authority by the Consent Holder for the purposes of the application contained inaccuracies which materially influenced the decision on the application and the effects of the exercise of the consent(s) are such that it is necessary to apply more appropriate conditions

6. In the conditions of these consents, "Biosolids Guidelines" means the *Guidelines For The Safe Application Of Biosolids To Land In New Zealand (August 2003)*, published by the New Zealand Water & Wastes Association (or subsequent version).

Annual Hui

7. During the month of November each year, the Consent Holder shall arrange a hui for Te Tau Ihu iwi. For the avoidance of doubt this hui may be combined with any

hui required under the resource consents for the Bell Island Wastewater Treatment Plant.

Notification of the hui shall be via the Consent Holder's website and by email or mailed notice to each iwi representative at least four weeks before the hui. Minutes of the annual hui will be distributed to all parties within four weeks of the date of the hui. The purpose of the hui shall include but is not limited to the following:

(a) The Consent Holder recognising the role of tangata whenua as kaitiaki and seeking to understand ongoing cultural considerations in relation to the activities subject to these consents;

(b) The Consent Holder providing an opportunity for Te Tau Ihu iwi to view the activities subject to these consents including an opportunity to assess sites of cultural significance and confirm that identified archaeological sites are adequately protected;

(c) The Consent Holder seeking input from Te Tau Ihu iwi into potential works or measures that could be undertaken on Moturoa / Rabbit Island to maintain the natural character and ecological values of Moturoa / Rabbit Island and protect the Mauri of the Waimea Inlet insofar as it relates to the activities subject to these consents.

(d) Minutes of this hui will be distributed to all parties within four weeks of the date of the hui and supplied to the Council's Team Leader Monitoring and Enforcement.

Advice note

The notification requirements in this condition will be complied with if the Consent Holder gives four weeks of notice to each iwi representative in accordance with contact details maintained by Tasman District Council.

Annual report

8. The Consent Holder shall submit an Annual Report and provide it to the Council's Team Leader Monitoring and Enforcement by 31 October of each year. The Report shall cover the period from 1 July to 30 June and include, but not necessarily be limited to, the following:

(a) Collation, analysis and interpretation of the monitoring results required by the conditions of these consents. This assessment shall include an analysis of the past five years' monitoring data and identification of any trends in the results;

(b) Copies of any records required by any condition(s) of these consents;

(c) Summary of any non-compliances with the conditions of these consents and ~~any~~ the adequacy and scope of such monitoring and any actions arising;

(d) A summary of complaints, if any, received by the Consent Holder and any measures taken in response to those complaints;

(e) Details of the date of the hui as required by condition 7 above, numbers in attendance, and a summary of matters discussed and any actions arising; and

(f) The record of results from all odour monitoring patrols undertaken in accordance with condition 26 over the previous year.

Six-yearly monitoring and technology review report

9. The Consent Holder shall submit a Monitoring and Technology Review Report (MTRR) to the Council's Team Leader Monitoring and Enforcement by 1 March 2026, and thereafter at six-yearly intervals throughout the term of these consents.

For the avoidance of doubt the MTRR may be combined with the Monitoring and Technology Review Report required under the resource consents for the Bell Island Wastewater Treatment Plant.

Comment- the above paragraph could be made an advice note

The MTRR shall be prepared by a suitably qualified and experienced person(s) and shall include the following:

(a) Forecast of biosolids quality and quantity throughout the remainder of the consent term as a result of potential future changes to wastewater inputs and/or the wastewater treatment process at the Bell Island Wastewater Treatment Plant;

(b) An assessment of the implications of climate change (reasonably foreseeable within the term of these consents) on the application of biosolids at Moturoa / Rabbit Island;

(c) An assessment of the ability of the activities subject to these consents to continue complying with the conditions of these consents for the remainder of the consent term, particularly in relation to:

(i) the assessment in (a) and (b) above;

(ii) monitoring or other relevant data gathered under these resource consents;

(iii) any reported non-compliance with consent conditions in the prior reporting period;

(d) An assessment against the Biosolids Guidelines including any subsequent update;

(e) A summary of significant technological changes and advances in relation to biosolids production, treatment, application and end use that could be of relevance to the activities authorised by these consents; and

(f) A general assessment of whether any newly available technology option(s) or combination of options identified through (e) above is likely to represent the Best Practicable Option (BPO) to minimise the potential and actual adverse effects of biosolids application on Moturoa / Rabbit Island.

Advice note

The reporting dates in this condition align with the conditions imposed on the Bell Island Wastewater Treatment Plant resource consents and the three-yearly Long-Term Plan cycle and will be carried out under the consultative procedures of, and approved budgets under the Local Government Act 2002.

9A The six-yearly reviews available to the general public by making them available on a public website (NRSBU or subsequent organisation)

[Comment: as requested by Waimea Inlet Forum in their submission]

10. The Consent Holder shall consider the assessment completed in condition 9(f) and advise the Consent Authority whether it intends to adopt any option(s) or incorporate such technologies as BPO.

10A. The equipment required by these consents shall be maintained in a good and sound condition, and any repairs that are necessary shall be made as soon as reasonably practicable

Biosolids management

11. A Biosolids Management Plan shall be maintained and reviewed annually and include details of:

(a) Roles and responsibilities of organisations and staff responsible for the activities subject to these consents, including the chain of command;

(b) Procedures to be followed to ensure all relevant conditions under these consents are fully complied with, including independent sections to address:

(i) Biosolids application limits;

(ii) Exclusion zones and buffer areas;

(iii) Odour management and minimisation, including:

- a detailed description of the activities that may give rise to odour emissions, including discussion of the individual processes, equipment or plant elements and their function;
- on-site odour monitoring requirements; and
- contingency measures to deal with plant malfunctions and maintenance requirements;

(iv) Health and safety of the biosolids application contractor and the general public accessing Moturoa / Rabbit Island;

(v) Monitoring required under these resource consents; and

(vi) Complaints.

(c) How records will be kept including time of application, weather conditions, quantities applied, location of application, any other operational parameters;

(d) Areas to be used for biosolids application in the following year;

(e) Incident and accident response procedures, including in relation to equipment failures and accidental spillage of biosolids; and

(f) Methodology for annual review of the plan.

12. A copy of the Biosolids Management Plan in condition 11 shall be made available to the Council's Team Leader Monitoring and Enforcement upon request.

Complaints and notifications

13. The Consent Holder shall maintain a Complaints Register for the purpose of recording and dealing with any complaints that are received by the Consent Holder in relation to the exercise of these resource consents. All complaints received by the Consent Holder in relation to the activities authorised by these consents shall be logged immediately in the Complaints Register. The Complaints Register shall record:

(a) The date, time, location, duration, and nature of the alleged event / incident;

(b) Name, phone number and address of the complainant unless the complainant wishes to remain anonymous;

(c) Any remedial action taken by the Consent Holder in response to the complaint and when it was undertaken;

(d) The possible cause of the relevant event/ incident that led to the complaint;

(e) The weather conditions at the time of the relevant event/ incident including estimates of wind direction, wind strength, temperature and cloud cover; and

(f) The date and name of the person making the entry.

14. Details of any complaints received that may indicate non-compliance with the conditions of these consents shall be provided to the Council's Team Leader Monitoring and Enforcement within ~~48 hours~~ 24 hours of receipt of the complaint or on the next working day. All complaints shall be included in the Annual Report required by condition X

Comment: consistency with Bell Island WWTP consent

Biosolids volume and quality

15. The daily volume of biosolids transferred between the Bell Island Wastewater Treatment Plant and Moturoa / Rabbit Island shall be recorded.

(a) For this purpose, a flowmeter of an accuracy to within ±5 per cent shall be maintained between the pumps at the Bell Island Wastewater Treatment Plant and the Biosolids Application Facility on Moturoa / Rabbit Island.

(b) This flow meter shall be calibrated every five years by an appropriately qualified and experienced person and calibration shall be supplied to the Council's Team Leader Monitoring and Enforcement.

Comment: good practice is to calibrate the meter

16. Material being processed to biosolids shall be held at 50°C or higher for a minimum duration as determined by the following equation:

(a) Minimum duration = 50,070,000 / 10^(0.14t) where t is temperature in °C and is greater than 50°C;

(b) A continuous record of the temperature of material being processed to biosolids shall be made and recorded for the duration of the consent and plotted on a continuous record to enable compliance to be readily visible.

17. (a) At no less than weekly intervals a grab sample of biosolids shall be analysed for E. coli and volatile solids reduction;

(b) If a sample in clause (a) fails to meet the Biosolids Guidelines requirements for E. coli and volatile solids reduction, the Consent Holder shall increase sampling to no less than 7 samples per month over a three-month period and

samples shall be analysed for E. coli, Campylobacter, Salmonella, enteric viruses and helminth ova; and

(c) If clause (b) applies, once there are less than three non-compliances in any three-month period against the limits specified in the Biosolids Guidelines, sampling may return to that specified under clause (a).

17A If there are three or more non-complying samples in the three-month period then the Consent Holder shall report it to the Council's Team Leader Monitoring and Enforcement in writing within five working days of gaining the lab results of the third sample. This reporting shall include what actions the Consent Holder will be undertaking to ensure material is being adequately treated.

18. (a) At three-monthly intervals the biosolids shall be measured, on a mg / kg dry weight basis, for the following metals / metalloids: arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc.

(b) If the concentrations exceed the grade b maximum concentration limits in the Biosolids Guidelines, weekly sampling should be implemented to demonstrate that the biosolids contaminant grade is appropriate for application to land.

(c) If clause (b) applies, once there are four consecutive samples below the grade b maximum concentration limits in the Biosolids Guidelines, sampling may return to that specified under clause (a).

18A. If there are more than six consecutive weekly samples that exceed grade b then the Consent Holder shall report it to the Council's Team Leader Monitoring and Enforcement in writing with five working days of gaining the lab results of the sixth sample. This reporting shall include what actions the Consent Holder will be undertaking to ensure the adverse effects are avoided

19. Each year, a composite sample shall be monitored for the following organic compounds: Total polychlorinated biphenyls (PCBs); nonyl phenol and ethoxylates (NP / NPE); phthalate (DEHP); linear alkydbenzene sulphonates (LAS); Tonalide and Galaxolid.

Biosolids application and limits

20. Biosolids shall be applied at an average depth of no greater than 40 millimetres per application.

Advice note

40 mm per application is equal to 40 l/m^2.

21. Biosolids shall not be applied:

(a) Within 24 hours of a 10 mm rainfall event occurring in a 24-hour period; or

(b) If a rainfall event of more than 50 mm is forecast within 24 hours by a recognised meteorological forecasting service (Metservice).

22. Biosolids application to any given forestry block shall be limited to the following:

(a) During the time period from the last prior-to-harvest biosolid application to 12 years after replanting, biosolids shall be discharged at an average rate of no more than 150 kilograms of nitrogen per hectare per year, calculated using a three-year rolling average, and no single discharge shall exceed 450 kilograms nitrogen per hectare per application year.

(b) During the time period from 12 years following replanting to the last prior-to-harvest biosolid application, biosolids shall be discharged at an average rate of no more than 100 kilograms of nitrogen per hectare per year, calculated using a three year rolling average, and no single discharge shall exceed 300 kilograms nitrogen per hectare per application year.

(c) No more than one application of biosolids shall occur to any given forestry block during the period following harvest and prior to replanting.

Exclusion zones and buffer areas

23. No biosolids shall be applied at any time in the exclusion zones shown on ~~Plan XXX~~ Plan A attached to and forming part of these consents.

The Council may exclude such further areas from the biosolids consent area as are considered necessary should further areas of ecological significance be subsequently identified. Operations in such areas shall cease upon the Council's Team Leader Monitoring and Enforcement request to allow for further assessment and shall not continue without the agreement of the Council's Team Leader Monitoring and Enforcement.

Advice note

With changes to sea level occurring, the location and species composition will migrate.

24. No biosolids shall be applied in the following buffer areas:

(a) Around the entire coastal edge of Moturoa / Rabbit Island a buffer area of 50 metres inland from mean high water springs;

(b) From the outer edge of the plantation forest an inward buffer area of 15 metres;

(c) Around the perimeter of the Moturoa / Rabbit Island "Old Domain Area" - the Recreation Reserve area located just behind the front beach on Moturoa/Rabbit Island a buffer area of:

(i) 30 metres during the months of April to October inclusive; and

(ii) 100 metres in the months of November to March inclusive.

(d) Within 30??metres of a culturally sensitive site

(e) 50 metres of publicly accessible areas

(f) 30 metres areas of ecological significance including Wetlands

24A. The Consent Holder shall ensure there is no spray drift beyond the property boundary.

Cultural Health Index monitoring programme

24B. (a) The Consent Holder shall, within 12 months of the commencement of this consent, and following consultation with iwi, submit to the Council's Team Leader Monitoring and Enforcement for approval a Cultural Indicators Monitoring Plan (CIMP), prepared in accordance with this condition. The Consent Holder shall include any comments from the iwi as part of the consultation, along with an explanation of where and why any comments have not been incorporated into the CIMP;

(b) The purpose of the CIMP is to supplement the scientific information collected as part of this consent, by also monitoring various indicators of the cultural effects of the activities authorised by this consent ("Cultural Indicators") in order that the Consent Holder and the Council understand the cultural effects of the activities authorised by this consent, including how any cultural effects may change over time;

(c) The Cultural Indicators referred to in this condition shall be capable of being objectively defined and assessed. They may include, but are not limited to, assessing changes in the characteristics of the estuary adjacent to Moturoa / Rabbit Island, the health of culturally significant flora and / or fauna that interact with the Waimea inlet and its environs;

(d) The Consent Holder shall invite the Te Tau Ihu iwi to assist in the implementation of the CIMP;

(e) The Consent Holder shall implement the CIMP developed in accordance with this condition.

(f) Except where (g) below applies, the timing and reporting of the CIMP shall be aligned with the annual hui.

(g) The reporting associated with the CIMP shall be provided to the Te Tau Ihu iwi in draft form, not less than four weeks prior to it being submitted to the Council. Final reporting to the Council shall incorporate any feedback received from the Te Tau Ihu iwi (including identifying and explaining any matters of disagreement) and be provided to the Council at the same times as other monitoring results are provided for the annual monitoring plan.

Odour

25. There shall be no discharges to air from the biosolids application activity or the BAF that results in an adverse effect that is offensive or objectionable beyond the line of mean high water springs around the perimeter of Moturoa / Rabbit Island, and the public reserve on the front of Moturoa.

26. The Consent Holder shall appoint a suitable independent person to the role of odour patroller and shall comply with the following odour patrol protocol:

(a) The odour patroller shall visit Moturoa / Rabbit Island at least once per month and record observations of odour at specified locations around the perimeter of the Island and on the shoreline of Best Island facing Moturoa / Rabbit Island and at any other position(s) that may be impacted by odour that could have an adverse effect beyond the line of mean high water springs around the perimeter of Moturoa / Rabbit Island;

(b) The odour patroller shall also undertake a visit to Moturoa / Rabbit Island in response to any odour complaint in circumstances where the initial investigation by the Consent Holder indicates that the reported odour event may have been caused by the biosolids application activity on Moturoa / Rabbit Island;

(c) Odour patrols shall include the specified locations at which odour observations are made and the numerical scale of the offensive or objectionable nature of the odour which the odour patroller adopts to record the observations;

(d) The Consent Holder shall inform the biosolids application contractor of the outcomes of the odour patrol and any necessary interventions or inputs shall be made to the application location or method to mitigate the odours observed;

(e) In addition to the monthly odour patrols, the odour patroller may, at their discretion, visit Moturoa / Rabbit Island at any time to make observations of odour; this may, but will not necessarily be, in response to complaints received.

(f) The Consent Holder shall provide the contact details of the odour patroller to the Council's Team Leader Monitoring and Enforcement. If this odour patroller changes the contact details shall be updated with the Council's Team Leader Monitoring and Enforcement.

(g) The record of results from all odour monitoring patrols shall be retained and provided to the Council on request.

(h) The windspeed and direction from the Metrological monitoring on Bell Island shall be included with each record

Advice note - see resource consent RM171255, condition 38.

Groundwater

27. Eleven existing shallow piezometers on Moturoa / Rabbit Island, as shown on Plan XXXX attached to and forming part of these consents, shall be maintained and monitored as follows:

(a) At three-month intervals groundwater levels shall be measured and recorded at all eleven piezometers. At three-month intervals representative samples shall be taken from all eleven piezometers for pH, conductivity, nitrate-nitrogen, ammonium-nitrogen, phosphorus and chloride.

(b) At three-month intervals representative samples shall be taken from at least two piezometers for faecal indicator bacteria.

(c) Each year a representative sample shall be taken from all eleven piezometers, filtered and analysed for the following heavy metals/metalloids; arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc, aluminium.

27A. There shall be no discharge to water and the discharge shall not cause any of the following effects in the receiving water:

(a) The production of any conspicuous oil or grease film, scums or foams, or floatable or suspended material;

(b) Any conspicuous change of colour or visual clarity;

(c) Any emission of objectionable odour; or

(d) Any significant adverse effect on marine aquatic life

Soil

28. At a minimum of three-yearly intervals, two soil samples shall be undertaken within the topsoil (0 to 20 cm) and subsoil (20 to 40 cm) layers every 10 hectares in areas where biosolids have been applied. Samples from each soil layer shall be combined to form a composite sample. At each sample location, the GPS coordinates shall be recorded.

(a) Each composite sample shall be measured for pH, organic matter, total nitrogen, available phosphorous, potassium, calcium, magnesium, sodium and the following metals / metalloids: arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc;

(b) Each composite sample shall not exceed the heavy metal maximum soil concentration limits recommended in the Biosolids Guidelines;

(c) If a composite soil sample undertaken in accordance with the above subclauses exceeds the heavy metal maximum soil concentration limits recommended in the Biosolids Guidelines, then the Consent Holder shall:

(i) prepare a report to investigate whether the exceedance(s) was as a result of natural influences, one-off event, or in whole or part associated with the activities authorised by these consents; and

(ii) comment on whether the exceedance measured is likely to continue; and

(iii) recommend whether any further action needs to be taken by the Consent Holder.

A copy of this report shall be provided to the Council's Team Leader Monitoring and Enforcement.

Advice note

For each 10ha area there shall be two composite samples. One composite sample for each of the topsoil and subsoil layers.

Coastal

29. Every six years transect surveys along the foreshore shall be undertaken. The survey is to include sediment profile descriptions, sediment nutrient assessment, habitat classification, and benthic micro and macro algal cover. The transect locations shall be the same as those established under resource consent NN940379V3, and as identified in RM200638 plan B attached to this consent.

30. (a)Visual checks along the Moturoa / Rabbit Island foreshore within Waimea Inlet shall be undertaken by a suitably qualified person at three-yearly intervals for the duration of this consent. Photographic records shall be taken at each inspection.

(b) Should this visual inspection indicate any adverse effects on the foreshore, further analysis and tests are to be undertaken at the discretion of the Council's Team Leader Monitoring and Enforcement.

31. Within five years of commencement of these consents, all stormwater and washdown water at the Biosolids Application Facility shall be captured and discharged to the BAF holding tanks

Climate change

31A The Consent Holder shall prepare a climate change adaptation plan and to implement measures which anticipate and adapt to future climate change before it causes adverse environmental impacts, through the establishment of trigger points for preventative actions.

31B In the event that the progress of sea level rise causes the 50 metre buffer width to be reasonably foreseen to be inadequate to prevent contaminants and nutrients reaching the Inlet in those places, especially with regard to occasional high tide storms, the width of the coastal buffer area shall be increased in specific places, within three months after each six-yearly review, in consultation with the Council's Team Leader Monitoring and Enforcement.

32. In the event that natural regeneration, migration of natural vegetation, and / or reestablishment of native cover show that the migration of the inland boundaries of any of the significant native habitats will encroach into mapped buffer areas before the end of the term of the consent. The significant native habitats shall be remapped and buffers altered.

33. Accidental discovery ??- but no earthworks are proposed ?

[Comment- no earthworks are proposed so unclear if this is needed]

General advice notes

Council regulations

1. This is not a building consent and the consent holder shall meet the requirements of the Council with regard to all building and health bylaws, regulations and Acts.

Other Tasman Resource Management Plan provisions

2. This resource consent only authorises the activity described above. Any matters or activities not referred to in this consent or covered by the conditions must either:

   (a) comply with all the criteria of a relevant permitted activity rule in the Tasman Resource Management Plan (TRMP) or national environmental standard;

   (b) be allowed by the Resource Management Act; or

   (c) be authorised by a separate resource consent.

PLAN A – Exclusion zones

To be inserted – and provided by Applicant.

PLAN B – Transect locations