

Ecocast Limited (Ecocast)

VERMICOMPOSTING - KAWERAU RESOURCE CONSENT APPLICATION

30 APRIL 2024

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VERMICOMPOSTING - KAWERAU RESOURCE CONSENT APPLICATION

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This report ('Report') has been prepared by WSP exclusively for Ecocast Limited ('Client') in relation to a new resource consent application for their existing vermicomposting operation ('Purpose') and in accordance with the instructions from the client in 2023]. The findings in this Report are based on and are subject to the assumptions specified in the Application documents. WSP accepts no liability whatsoever for any reliance on or use of this Report, in whole or in part, for any use or purpose other than the Purpose or any use or reliance on the Report by any third party.



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ACRONYMS AND ABBREVIATIONS

[Edit list, only include what is used in the document, add others if needed.]

Acronym/Term	Description
AEE	Assessment of Effects on the Environment
DOC	Department of Conservation
DSI	Detailed Site Investigation
EPA	Environmental Protection Authority
HNZPT	Heritage New Zealand Pouhere Taonga
HNZPTA	Heritage New Zealand Pouhere Taonga Act 2014
NES-AQ	National Environmental Standards for Air Quality 2004
NES-DW	National Environmental Standard for Sources of Drinking Water 2007
NES-F	National Environmental Standards for Freshwater 2020 (NES-F)
NES-CS	Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011
NPS-FM	National Policy Statement for Freshwater Management 2020
NPS-HPL	Proposed National Policy Statement for Highly Productive Land
NPS-IB	Proposed National Policy Statement for Indigenous Biodiversity
PSI	Preliminary Site Investigation
RMA	Resource Management Act 1991

EXECUTIVE SUMMARY

Ecocast Limited (Ecocast) currently has a resource consent (RC65549) with Bay of Plenty Regional Council (BoPRC) to operate a well-established vermicomposting operation within the site known as 296A Tarawera Road (aka McKee Rd), Kawerau.

The current resource consent from BoPRC includes the discharge of 28,000 tonnes of biosolid material to land, which is mixed with a similar volume of wood pulp mix (not included within the 28,000 tonnes). This consent expires on 31 October 2024. Ecocast wish to continue operations at the site, and are therefore seeking a replacement resource consent for RC65549.

Over the course of the consent, it has been established that the area being used under the current consent RC65549, is not large enough to process the 28,000 tonnes of biosolids. Therefore, in 2020, Ecocast lodged a new application (RM20-0043-AP) which sought consent for the extension of the operation onto a new area of land of 5.5 ha to the south of the existing consented area. It also sought an increase in the total quantity of material to be processed to 70,000 tonnes (biosolids plus wood pulp mix).

All the technical matters for the proposed consent (RM20-0043) were agreed. Approvals were obtained from Ngati Awa and Ngati Rangitahi. However, Tuwharetoa ki Kawerau declined to give their approval for the proposed consent and sought a hearing. The main issue was the importing of biosolids from another rohe into their rohe.

Prior to the hearing commencing, the monitoring data for nitrate-N at one of the bores (GW2) downgradient of the existing biosolid processing area returned a reading in exceedance of the NZ Drinking water standard. As a consequence, BOPRC placed RM20-0043-AP on hold until the nitrate contamination issue was resolved.

Over the next 2 years extensive work was done to characterise the groundwater and extent of nitrate contamination. This led to a new application and commissioning of a groundwater remediation project, which was designed to abstract contaminated groundwater, strip nitrate and return denitrified water to the aquifer. This was consented in 2023 (RM23-0129) and commenced operation in March 2024.

Ecocast have also reevaluated the amount of land and capacity to expand the business and decided that the 70,000 tonnes (i.e. 35,000 tonnes of biosolids) as previously sought was not sustainable as there was insufficient processing area within the available lease blocks.

Given the pending expiry of the existing consent, Ecocast are now submitting a new application for a small increase to the amount of biosolid material for the entire operation to 32,000 tonnes. The new consent is to cover both the Putauaki Trust block (the original operation) and the land immediately to the south owned by the Wetini whanau (which was the subject of RM20-0043-AP). The total land area of the combined processing sites (including access and stormwater buffers) will be 22 ha.

The vermicomposting operation provides a useful service to the Region's local authority wastewater treatment plants. It takes biosolids and processes them into a soil conditioner/compost which is an Aa grade biosolid product. Without the Ecocast operation it is probable that the biosolids would have to be trucked out of the region and disposed to landfill at Hampton Downs in the Waikato.

The vermicomposting activities require resource consent from BOPRC under the Bay of Plenty Regional Natural Resource Plan (RNRP) and the Tarawera River Catchment Plan (TRCP), and from Whakatane District Council under the Whakatane District Plan (WDP). The activity is permitted under the Kawerau District Plan (KDP). Overall, the proposed activity constitutes a **Discretionary Activity** under the relevant plans.

Ecocast consider there are three key aspects that will determine this Application and whether the Kawerau operation can continue. These are odour, nitrogen leaching and importation of biosolids from other areas. These matters are addressed in full in the Application and are summarized below:

Odour

The Biosolids are an inherently odorous material when fresh. The process breaks down the odorous compounds and the final product is benign. Ecocast consider Odour is an operational issue that is able to be managed to acceptable levels by on site practices, location of the waste reception, timing of operations and, as necessary, odour neutralizing/masking.

Nitrogen leaching

Leaching of nitrogen from the windrows is a natural consequence of the vermicomposting process. The nature of the soils on site being highly permeable is that this nitrogen is able to readily reach the groundwater and cannot be contained for treatment with stormwater runoff. Artificial lining of the site to seal off the subsoil and intercept the leachate has been considered but is not economically sustainable. Ecocast through its site operations will endeavour to minimize the leaching of nitrogen to groundwater but cannot prevent it completely. Therefore, Ecocast propose that abstraction of the contaminated groundwater, treatment to remove nitrate-N and reinjection of the treated water is the method that will be used to remedy nitrate levels on an on going basis and ensure that groundwater leaving the site does not exceed the NZDWS MAV.

Importation of Biosolids from other Rohe

Whilst the Applicant respects the views as previously expressed by Tuwharetoa ki Kawerau on "importation" of biosolids (RM20-0043) this is not a position Ecocast can address and any such limitation is completely untenable for the business. Engagement with Tuwharetoa ki Kawerau is continuing at time of writing.

1 INTRODUCTION

1.1 PROJECT OVERVIEW

Pursuant to section 88 of the Resource Management Act 1991 (RMA), Ecocast Limited (Ecocast) seeks resource consent from Bay of Plenty Regional Council (BoPRC) under the Bay of Plenty Regional Natural Resource Plan (RNRP) and the Tarawera River Catchment Plan (TRCP) for discharges to land and air at 296A Tarawera Road (aka McKee Rd), Kawerau.

Ecocast's existing biosolids vermicomposting activity operates under resource consent RC 65549 from BoPRC, and a Certificate of Compliance (CoC) from Kawerau District Council (KDC). RC65449 ([Appendix L](#)) is due to expire on the 31st October 2024. The CoC remains current (or until permitted activity status changes) for the currently consented area. Ecocast is seeking to apply for a new consent under s124(2)(d) of the RMA to continue their existing vermicomposting operation.

This application also seeks to extend the consented area to include an additional 5.5 ha of land to the south and increase the maximum volume of biosolids to be processed on site from 28,000 tonnes to 32,000 tonnes per annum. The application site is shown on Figure 1 below.



Figure 1 – Site Location (Source: Grip.co.nz).

Ecocast also seek resource consent from Whakatane District Council (WDC) for the operation of an intensive farming activity which constitutes a discretionary activity under the Whakatane District Plan (WDP). Resource consent applications forms are provided in [Appendix M](#).

The new area, owned by the Wetini whanau (henceforth referenced as “south extension”) is in the Whakatane District, whereas the existing area (“Putauaki Block”) is in Kawerau District where it is a permitted activity under the Kawerau District Plan (KDP).

The activity is discussed and shown in detail in the following assessment of effects, technical reports, and site plans attached to this application.

1.2 RESOURCE CONSENTS SOUGHT

Ecocast seeks a new resource consent for the following land use activities:

- Discharge of contaminants to land in circumstances where contaminants may enter groundwater in the Tarawera Catchment under **Rule 37** of the RNRP and **Rule 16.8.5(a)** of the TRCP, being a **Discretionary Activity**.
- Discharge of contaminated stormwater to land in circumstances where contaminants may enter groundwater in the Tarawera Catchment under **Rule 37** of the RNRP and **Rule 16.8.4(p)** of the TRCP, being a **Discretionary Activity**.
- Discharge of odorous gases to air from a composting operation under **Rule AIR-R15(6)** of the RNRP, being a **Discretionary Activity**.

Overall, the activities constitute a **Discretionary Activity** under the relevant Regional Plans.

Resource consent is sought from WDC for the following activity:

- To operate an intensive farming activity which constitutes a discretionary activity under Rule 3.4.1.1.32 of the WDP, being a **Discretionary Activity**.

1.3 SUPPORTING REPORTS

This application draws information from a number of technical reports commissioned by Ecocast since 2020. In particular, the Application draws heavily upon the two previous consent applications being RM20-0043 (placed on hold) and RM23-0129 (granted 2023).

The Table below lists the supporting documents attached as appendices to this application:

#	Subject	Source/title	Coverage
A	Vermicompost operations	Site Management Plan (v8)	The Site Management Plan provides a full description of the operations methodology
B	Air discharges	Ecocast – Odour, Dust & Bioaerosol Assessment Air Matters Report 20088	This report was prepared in support of RM20-0043
C	Dec-Jan Event	Summary of December-January 2023/4 Odour episode	This is a brief explanation from Ecocast of the reasons for the odour event and measures taken to avoid a repeat
D	Groundwater	Application for RM23-0129 including Appendices A-G	The RM23-0129 Application provides a full description of the

#	Subject	Source/title	Coverage
			groundwater regime at the site and the effects of the operation on groundwater quality
E	Groundwater monitoring update and Denitrification Project update	Ecocast Ltd: Groundwater Monitoring Report, WSP April 2024	This updates the groundwater monitoring record for 2023/24 since the RM23-0129 Application and comments on the denitrification project
F	RM20-0043 Section 92 response	Ecocast Vermicomposting Site: Consent RM20-0043: Section 92 RMA Response, include Appendices A-K	The s92 response for RM20-0043 is included as it traverses a number of relevant aspects of effects on groundwater, surface water and terrestrial ecology
G	Iwi approvals	2024 update	Iwi consultation is on going as set out in the covering letter to the Application
H	Neighbour approvals	2024 update	Neighbour consultation is on going as set out in the covering letter to the Application
I	Site Plan		Latest site plan showing all bores and extent of proposed processing areas
J	Existing Consent 65549		
K	Alternatives		Letter of 24/8/21 covering non feasibility of lining the site
L	Certificate of Compliance	KDC	

The Appended reports in turn contain a number of Appendices and supporting documents. To aid the reader text boxes are included to provide further direction to the appropriate sections where reference is made in the Application text to an Appendix. Appendices referenced as **Appendix X** refer the reader to the main appendices of this document, whereas '**Appendix X (Appendix X)**' refers to a subsidiary appendix of a supporting report.

2 EXISTING ENVIRONMENT

2.1 SITE HISTORY

The subject site has been operating a consented vermicomposting operation since May 2009 under RC 65549, which included discharges to air and land. The consent allowed Ecocast to accept and discharge 28,000 tonnes of biosolid material to land, and to mix this with an approximately equal volume of bulking agent of woodchip or pulp and paper waste and discharge to an area of approximately 15 hectares. Consent was granted for a period of 15 years, subject to conditions.

At the time the operation commenced the land was in pasture and being used for drystock and dairy heifer grazing as part of the wider Putauaki Trust farming operations. Initially the vermicomposting was located on an area approx. 1 km north east of the present location. In 2017 the operation shifted to its current location at the request of the landowner.

Adjoining land uses are of an agricultural and industrial nature, being:

- Logyard of 19 ha immediately to the north
- Oji pulp mill 420 m to the west
- Electricity substation 400m to southwest
- Geothermal bore immediately to south (under construction 2023)

The nearest residences are some 1.7km to the west/southwest.

The original consent 65549 included a specific condition around the wastewater plants from which biosolids were to be sourced. To accommodate requests from local District Council's this list was amended several times by way of variation to consent, bringing in Waihi and Katikati among others. This matter of source is addressed further in Section 4.1.2 below.

In 2020 resource consent (RM20-0043-AP) was lodged with BoPRC to expand the existing operation into an area of land (5.5 ha Approx.) on the Wetini whanau property, which adjoins the established site to the south. All the site neighbours, Ngati Awa and Ngati Rangitihia signed off on the Application for RM20-0043 ([Appendix G and H](#) refer).

The application was limited notified to Ngāti Tūwharetoa ki Kawerau. A date was set for the hearing, however, prior to this taking place, one of the ground water bores (GW2) returned readings that were above the NZ drinking water standard MAV (Maximum Acceptable Value) for Nitrate-Nitrogen (11.8 g/m³ as Nitrate-N). The application was placed on hold until this nitrate contamination issue could be understood and remedied.

Over the next 2 years extensive work was done to characterise the groundwater and extent of nitrate contamination. This led to the groundwater remediation project which was consented in 2023 (RM23-0129) and has now commenced operation, abstracting contaminated groundwater, strip nitrate and return treated water to the aquifer. There is no nett abstraction of groundwater as part of the nitrate removal project, with all abstracted water returned to the aquifer.

2.2 PROPERTY DETAILS

The existing operation at 296A Tarawera Road, Kawerau occupies approximately 15 hectares of the property legally described as Putauaki Trust 101 Block Māori Land Plan 528377, held by trustees of the Putauaki Trust in Title Record 891994.

The southern extension area is legally described as Lot 59B No.2C No.2B1 Parish of Matata Block, and is held in Title Record 389133 by Tessa Aroha Wetini, Rangitoia Santa-Maria Wetini and Wayne Rawiri Wetini. Ecocast have entered into an agreement with the landowners to lease 5.5 hectares of this 24.4404 hectare property.

2.3 SITE ANALYSIS

The site of the existing vermicomposting operation is located at 296A Tarawera Road (aka McKee Rd), within Kawerau District. The existing area is zoned as Rural Lifestyle under the Kawerau District Plan. The southern extension area is zoned Rural Foothills under the WDP.

The existing site (approx.. 460m(l) x 330m(w)) sits approximately 400m east of Tamarangi Drive (SH34), to the south-east of the Oji (Tasman) Mill (pulp and paper) and immediately south of the Kawerau Log Yard. To the east of the subject site is further farmland and forestry.

To the immediate adjoining south of the subject site is a 5.5 hectare piece of land which Ecocast wishes to expand into. This piece of land sits within the Whakatane District. The entire site (existing and proposed) therefore traverses the Kawerau and Whakatāne District boundaries, as shown on Figure 2. The actual area on this title leased for the vermicomposting is 5.5 ha. The balance is hilly country unsuitable for the activity. These hills are to the west of the proposed southern extension and effectively screen the new area from Tamarangi Drive.

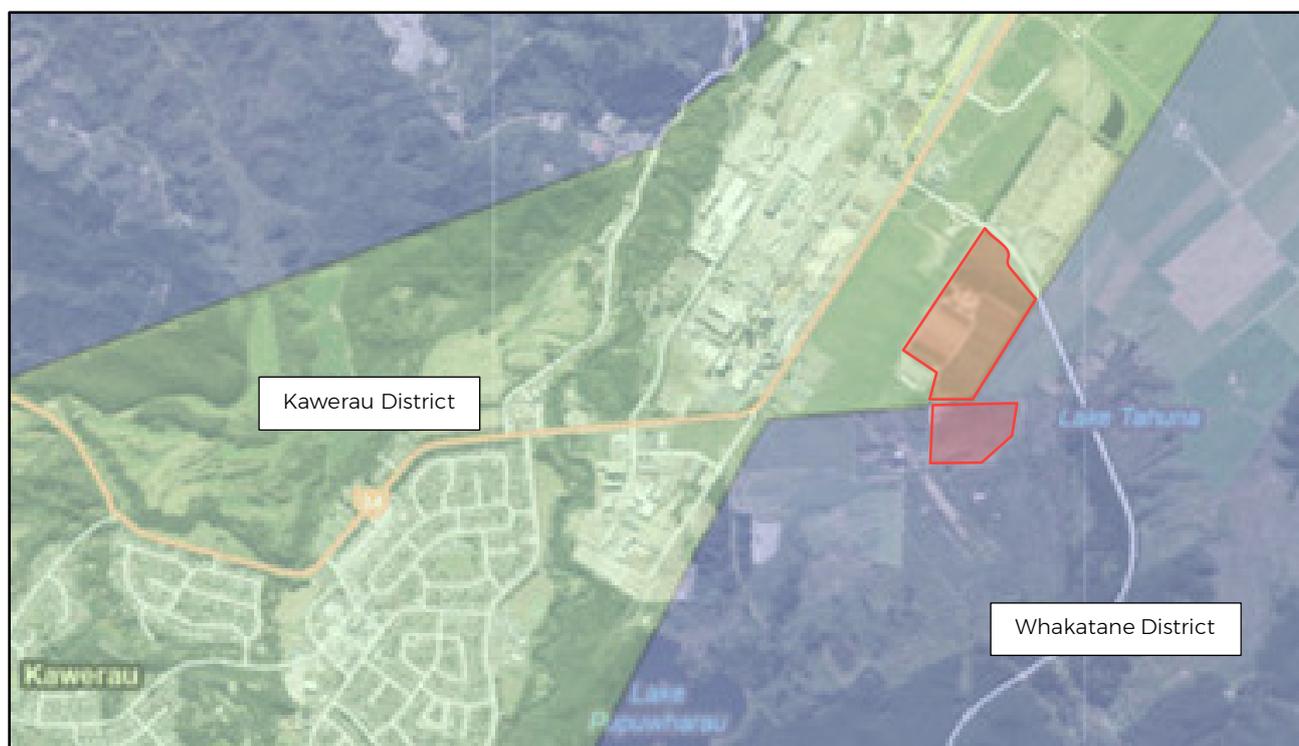


Figure 2 – Overlay of site area with district council boundaries, the site is outlined in red (Source: BoPRC).

The combined site (the site) can be accessed from Tamarangi Drive / SH34, then via Tarawera Road which is a wide, heavy duty sealed private forestry road. Note the Wetini property has a main access off Tamarangi Drive, this will not be used. The southern extension will be accessed from the adjoining site containing the existing operation.

Rural pastoral land adjoins the site to the west, north-west and south. Immediately south of the southern extension area is an undeveloped area of willow and gorse scrub with geothermal vegetation further back in.

The southern extension site is generally flat on the eastern portion intended for the processing and comprises well-draining soil. At present the area is in pasture and is grazed as part of the wider Putauaki Trust farm operations. Ephemeral surface water bodies exist just beyond the perimeter of the proposed lease area immediately to the south and south-east, with vegetation bounding this latter water body to the south-east as illustrated in Figure 3 (Appendix E, F).

A description of the ecological values of the land to the south of the extension area is contained in Section 4.3. Ecological values were covered in Point #7 of Table in Section 2 of the Section 92 Report to RM20-0043. Photo 3 of the vegetation area to the south of the extension area is also informative.

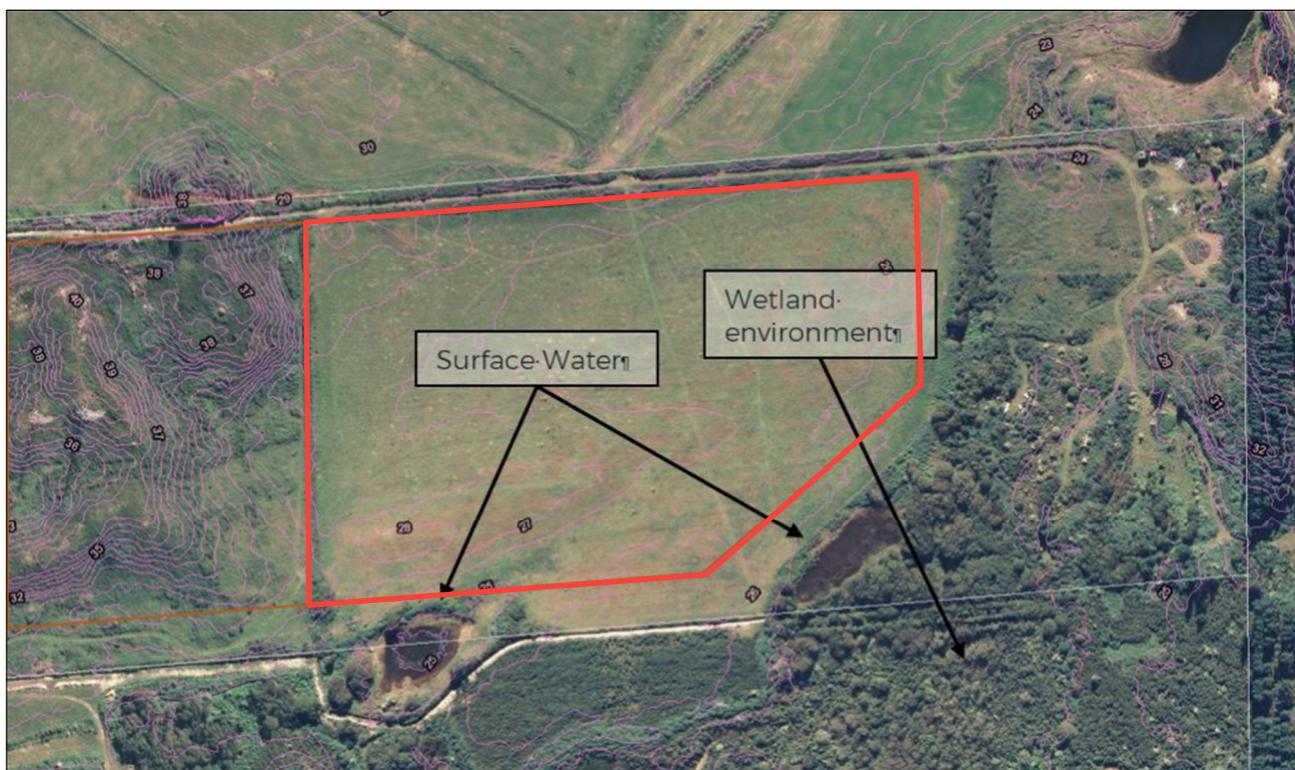


Figure 3 - Natural Features Surrounding the proposed extension area (Source: BoPRC).

Groundwater at this location is around RL 25m and the ground surface is at RL26m rising gently to the north. Groundwater flow at both areas is in a general northerly direction, away from the surface water bodies shown in Figure 3 above. A detailed mapping of all the bores and groundwater contours is provided in the RM23-0129 documents (Appendix D and E to this Application). The detailed analysis of the groundwater regime is set out in Appendices B and C to Appendix D. Appendix E updates this information with the additional bores installed for the nitrate removal project.

The existing and proposed areas are not identified as HAIL under the BoPRC's Bay Explorer. The Bay Explorer does not identify any significant natural areas or landscapes in the immediate locality.

2.4 GROUNDWATER HYDROLOGY

The groundwater hydrology has been well defined and extensively described by the investigation work undertaken for RM20-0043 and RM23-0129. These are included as **Appendix D and F** respectively.

An update of these reports to April 2024 is provided in **Appendix E**. A brief summary of the groundwater is set out below but reference should be made to the above documents.

Three groundwater bores were installed at the original Ecocast site and three bores exist at the current site for regular monitoring of groundwater quality and Standing Water Relative Levels (SWLR). A further 4 bores were installed at the southern extension area in 2020 for the RM20-0043 application. A further 7 bores have been installed for groundwater abstraction and monitoring as part of the nitrate remediation project.

Generally, the groundwater flows in a northerly to north-east direction. The depth to groundwater varies, getting shallower to the north due to the gentle slope of the land. Under the existing site groundwater is at around 7-9m depth. The groundwater is in an unconfined aquifer. The deeper bore hole logs for the 2 water supply bores in the logyard show pumice alluvium to around 30m depth. There are some intermediate beds of silt and peat at depth found in the bores which appear to provide partial confinement, but they do not appear to be continuous. A localised anomaly in the groundwater contours around GW2 is inferred to be a buried channel of coarser material. This would be consistent with the overall geology which is of an outwash plain formed from various Tarawera eruption debris, including that of 1886 and the subsequent dam burst.

The groundwater is not used (and nor is it suitable for without treatment) for potable use. The nearest bores for abstractive use are in the logyard for dust suppression and a large water take for irrigation approximately 2km to the north for the Putauaki farm. The ultimate surface expression of the shallow groundwater appears to be to the drainage channels in the area of Lambert Rd and SH 30 some 5km to the northeast.

2.5 GROUNDWATER CONTAMINATION

Groundwater contamination from nitrogen rich leachate from the worm beds is one of the two principal environmental effects that can arise from the vermicomposting. The land at the Putauaki Block is highly permeable pumice alluvial soils. These allow all stormwater to soak to ground beneath and around the windrows. The nitrogen in the vermicompost beds is almost all as ammoniacal nitrogen. Upon passage through the unsaturated pumice alluvium beneath the beds, typically some 7-10m thereof, the ammoniacal is almost all oxidised through to nitrate-N. Some will also be lost through volatilisation. The nitrate is persistent and mobile in the shallow groundwater.

On going compliance monitoring for Consent 65449 has identified that nitrogen rich leachate from the worm beds has led to development of a plume of nitrate rich groundwater extending out to the northeast of the current area. This is intercepted at Bore GW2. It is not encountered at Bore GW1 to the west nor in an intermediate bore placed 450m to the northeast of GW2 beside the logyard. Extensive work was done on the contamination through 2021-2023 leading to commissioning of

the groundwater denitrification project (Consent RM23-019). This work indicated the nitrate plume tends to be localised around the GW2 area and only affecting the top 5m of the unconfined aquifer, which in this area is 9 m below ground.

The groundwater contour map (Appendix E) shows an anomaly in the area of Bore GW2. The cause of this has not been established but probably reflects a higher permeability infilled channel of coarser pumice alluvium. This appears to be drawing the general groundwater from the windrow area into the zone around GW2. The groundwater contour map is found as Appendix 1 of Appendix E

Under the groundwater denitrification project, groundwater is abstracted from up to 4 shallow bores (i.e. screened no more than 5 m into the water table) at the north end of the current processing area. It is passed through submerged woodchip beds under anaerobic conditions where denitrification takes place. This is based upon the research work of Schipper et al over a number of years as documented in Appendix D. Refer to Section 8.4 of Appendix D. Appendix K is also relevant.

The denitrification method is advanced in this application as the means to remedy any adverse effects to an acceptable level, should nitrate contamination from the operation continue.

2.6 ARCHAEOLOGY

The existing operation has been in place for 8 years at a location as directed by the Putauaki Trust. BoPRC assessed the southern extension as part of the previous consent application, RM 20-043 and no archaeological issues were raised. An accidental discovery protocol is in place for any earthworks on the respective properties (although it is not anticipated that there will be substantial earthworks undertaken for this activity). Ecocast were directed to the current location by the Putauaki Trust and have signed a lease with the Wetini Trust in regards to the Extension area.



Figure 4 – Archaeological Records within Vicinity of Vermicomposting Site (Source: Arch Site NZAA)

An assessment of the NZAA Arch site shows that there is one record (V15/520) to the east of the site within the area of rural farming. There are few other records in the area, however it is noted that the proposed vermicomposting operation will not involve widespread earthworks. It is therefore,

concluded that from a cultural heritage (archaeological records) perspective the impacts and effects can be managed to an acceptable level. Any accidental discoveries can be dealt with under the accidental discoveries protocol under the Pouhere Taonga Act 2014.

2.7 AREAS OF NATURAL HABITAT.

The existing operation on the Putauaki Block is in an area of long-established pastoral farmland well removed from any surface water. As an existing operation in place for several years no new impacts arise from this part of the operation. Similarly, the southern extension area is pastoral land which has been grazed for many years.

Land to the south of the southern extension comprises an ephemeral flow path originating from Lake Pupuwharau to the west of Putauaki mountain. Beyond the overland flow path is an area of wetland and geothermal vegetation. These issues were traversed as part of the assessment of application RM20-043 and the subsequent s92 process. It was concluded at that time that the southern extension did not affect these areas and they were not a constraint on the extension. Full reference to these matters is found in [Appendix F](#).

Ecological values were covered in Point #7 of Table in Section 2 of the Section 92 Report to RM20-0043. Photo 3 of the vegetation area to the south of the extension area is also informative.

[Appendix E](#) Section 4.3 is also relevant

In terms of soil disturbance the vermicomposting activity is not dissimilar to other cropping disturbance of the land as may take place for maize. Provided appropriate stormwater controls and bunding are in place to contain any runoff to the processing area then there is no mechanism arising to transport the biosolids beyond the boundary. Groundwater flow is demonstrably to the north and so cannot affect the lands and ecology south of the extension ([Appendix D](#)).

2.8 CULTURAL SETTING

The activity is to take place within the Rohe of Ngāti Tūwharetoa kī Kawerau, Ngāti Awa, and Ngāti Rangitahi.

Ngāti Tūwharetoa and Ngāti Awa have Statutory Acknowledgements over the Tarawera River. The existing and proposed sites are located to the east of Tarawera River and will not have any direct influence on this valuable watercourse. The site sits within a statutory acknowledgement area for Ngāti Tūwharetoa (Bay of Plenty) relating to the Kawerau Geothermal System.

The application and assessment is not making any conclusions as to the impacts upon cultural values as the above mentioned iwi are the specialist in this area. However, the site does not contain any Wahi tapu that have been discovered to date. There are no areas of significant natural landscape or significant natural features associated with the site. Putauaki Trust are satisfied to continue leasing the land for the activity as are the Wetini whanau.

3 DESCRIPTION OF THE VERMICOMPOSTING OPERATION

3.1 INTRODUCTION

Vermicomposting is the use of earthworms to convert organic waste into nutrient-rich soil conditioner/compost/ fertiliser. It involves the breaking down of organic material through the use of worms, bacteria and fungi. Vermicompost is the product of the composting process, using worms to create a mixture of decomposing vegetative matter and vermicast (worm poo).

The vermicompost business produces compost which is sold to farms and orchards across the wider Bay of Plenty region. The product meets the Aa Biosolids grade allowing unrestricted use as commercial compost.

Vermicomposting is a well proven effective and environmentally beneficial method for dealing with organic waste. This operation is aligned with the New Zealand Waste Strategy (Ministry for the Environment, 2002) and related guidelines by the Ministry for the Environment. The vermicomposting operation provides a sustainable method for the Bay of Plenty region to recycle organic waste on a large scale. This is waste which otherwise would most probably be sent to landfill where it will decompose under anaerobic conditions producing leachate and methane gas.

The existing vermicomposting operation that was consented in 2009 and has been operating since. Ecocast seek a new resource consent for the continuation of the operation and an extension to the disposal field (5.5 hectares) into land on the Wetini property adjoining to the south. Although the land area is increasing in size it is proposed to only increase the consented amount of biosolids to 32,000 tonnes. This is only an increase of 4,000 tonnes from the currently consented activity, while the land area would be increasing from approximately 15 ha to 20.5 ha.

The concrete slab and bunker used for holding and mixing biosolids, prior to placing in the vermicast windrows on the two/ combined sites, will be shifted to the south further away from the log yard. A new bunker has been built but is not yet in use as it is awaiting the new consent.

It is proposed that the biosolid would continue to be mixed with a substrate of wood chip or pulp and paper waste mix prior to being discharged to land as windrows. Historically, the tonnage has been a combination of roughly equal proportion of biosolids and wood pulp from clarifier sludge, which is mixed on site in a mixer wagon, to form the vermicomposting windrows. A full description of the site operations is provided in the Site Management Plan ([Appendix A](#)).

The Site Management Plan sets out in detail all the operational procedures followed at the site. Sections 6-14 cover the operational detail.

3.2 ADDITIONAL VOLUME OF MATERIAL

The reason for Ecocast's proposed extension of their vermicomposting operation is that they propose to accept additional volume of material from Tauranga City Council's (TCC) WWTPs. Ecocast anticipate accommodating up to 32,000 tonnes of raw biosolids annually across the entire

operation (i.e. over both areas), with the additional volume available from TCC's WWTPs and allowing for incremental future growth/needs from the other suppliers.

To manage the additional material the proposed area for processing the vermicompost will increase, resulting in an overall reduction in the concentration of biosolid being placed in an area. The proposed new consent for the vermicomposting operation will apply to the one activity over the combined existing site and proposed site. The overall nature of the vermicomposting operation however, will not change.

Extending the operation over a wider area will mitigate environmental impacts by lessening the biosolids load per unit area.

3.3 SOURCE AND TYPE OF MATERIAL

The biosolids are sourced from a number of WWTPs across the Bay of Plenty that meet certain grade requirements, septic tank sludge from residential properties and sludge from other sources.

There are limitations on which WWTP are able to deliver biosolids to the site under the conditions of existing consent 65549 (**Appendix J** Condition 2.1 refers). This is sought to be changed in the new consent application. The source location of the biosolids is immaterial to the management of the operation, the critical factors are the nature and quality of the incoming material. The Applicant sees a condition specifying a source WWTP as an unreasonable restraint of trade clause with no basis in effects.

The municipal WWTP processes that are able to be managed effectively through the vermicomposting process are:

- Waste activated sludge streams
 - Primary solids from clarifiers (screened)
 - Oxidation pond biosolids (screened)
 - Septage (flocculated and screened)
- Not acceptable to the process are:
- Inlet Screenings and grit (rag and litter content)
 - Raw septage (litter contamination)
 - Grease trap (high odour potential)
 - Food waste (odour and attraction to birds and vermin)

Additional materials that may be used on occasion to aid the mix consistency and balance carbon:nitrogen ratios include:

- Shredded greenwaste
- Lakeweed

In terms of the origin of the waste material, whilst Ecocast respects the views previously expressed by Tuwharetoa ki Kawerau on "importation" of biosolids in their submission on RM20-0043 this is not a position Ecocast can address, and any such limitation is completely untenable for the business and indeed the municipal wastewater treatment sector as a whole.

3.4 SUBSTRATE MATERIAL

Substrate material is used in roughly equal proportions to biosolids to feed the worm beds. Actual ratios will vary with the different materials and should not be proscribed by consent. The substrate serves two key functions of (a) providing a physical matrix to allow air to permeate the windrow and (b) providing a carbon source.

A variety of materials are suitable for the vermicomposting process and may be used for the substrate. The key requirements are:

- Relatively dry so as to absorb moisture from the biosolids
- High carbon content to balance the nitrogen rich biosolids
- Finely ground matrix with large surface area
- Mix well in the mixer wagon to give an even consistency of product for the windrows
- No components that would be inhibitory to the biological activity in the worm beds. This would exclude pine bark

Typically products for the substrate are sourced from the paper and board mills in the adjoining area and include wood pulp from clarifier sludge and finely shredded log peelings (wood fibre not bark). Other high carbon horticultural residues such as maize cob are also suitable.

From a vermicompost process point of view, a variety of materials have been used successfully on the site including both pulp from the clarifier (Norske Skog) and finely shredded log peelings (WML). In the Applicant's view the odour issues experienced in December 2023 were not related to the type of substrate but to human error in its application to the windrows. [Appendix C](#) provides the Applicant's account of the December 2023 odour episode.

3.5 PROCESS

The vermicomposting process is described in the Site Management Plan ([Appendix A](#)). In summary the process for the proposed site and resource consent will be the same as for the existing site and consent.

Biosolids are collected from the various WWTPs and transported under cover to the existing site via truck and trailer units, where they will continue to be deposited into the concrete bunker (new bunker at southern extension to be used in future). A mixing wagon is then loaded with biosolids and substrate.

The mix of the biosolids and substrate is then deposited in windrows where worms, fungi and bacteria process the biosolid and substrate mix over 7-8 months. The substrate is used as a base layer with a mix of substrate and biosolids placed on top. Additional substrate can be placed on the windrow if required to mitigate odour. A geofabric cover is now also held on site and can be deployed if a fresh windrow proves unexpectedly odorous.

Compost worms are introduced immediately to start the process. The worms migrate around the mixed biosolids as the material becomes acceptable for them to process. The process is aerobic which minimises odour. Anaerobic conditions need to be avoided otherwise worms die or migrate away.

The vermicomposting is undertaken within earth windrows, as illustrated in the photo of the existing site in Figure 4. The photo illustrates the rural farming nature of the activity. The vermicast treated windrows are then turned over to commence a composting process for 1 month, following which the final product is heaped into large windrows. After 12 months the final product is tested against New Zealand biosolids standards to confirm it meets Aa grading and after final screening is ready to be supplied as a recycled and sustainable compost product.



Figure 5 - Windrows at current Ecocast site (Source: WSP).

3.6 STORMWATER CONTROLS

The ground at the site is highly permeable. Stormwater soaks to ground readily in the immediate vicinity of the windrows. Earth bunds will be formed, where necessary, to avoid surface water run-off beyond the activity site to the ephemeral flow path to the south of the proposed extension area. This matter was traversed and agreed in the evaluation of RM20-0043 ([Appendix F](#) refers).

Stormwater control to the southern extension was covered in Point #6 of Table in Section 2 of the Section 92 Report to RM20-0043. Section 4.3 of [Appendix E](#) shows the bunds as built

A buffer zone of at least 20m will be retained between the bund around the proposed discharge area of the operation and the ephemeral surface water bodies in the area adjoining the proposed southern site.

3.7 RETAIL ACTIVITY

No retailing will occur from the site and no public access to the site will be permitted, as is currently the case.

3.8 MONITORING

Regular monitoring of groundwater and raw material will be undertaken across the site, in a similar manner to that undertaken in the existing consent and in accordance with conditions of Consent No. 65549 and the monitoring provisions of RM23-0129.

All bores required to monitor for effects on groundwater at both the current and extension areas are in place and have been monitored since 2022. With a total of 21 bores on the site the groundwater is well covered. There are also shallow monitoring bores to the west on land where Waiu dairy dispose of their effluent. These are not part of the Ecocast operation.

3.9 OPERATING HOURS

As for the current site, operation of machinery on site will generally be confined to the hours of 7am to 7pm Monday to Friday and 7am to 12.00pm on Saturday. No machinery will be operated on site on Sundays or public holidays for the normal operation of the activity.

A number of questions about bores were raised from the 2020 application. These questions included the following:

- Ground water flow and new bores. Please provide bore logs and flow direction.
- Details of existing bores.
- Sampling and analysis to establish baseline.
- Evidence as to whether neighbouring bores are affected.

The response to the 2020 RFI was in the form of a report from WSP, which was accepted at the time of submission. This can be found in Appendix F.

3.10 STAFF

There are generally three staff on site most days.

3.11 CONDITIONS OF CONSENTS

We have reviewed the conditions of the existing Consent 65549 and envisage that the conditions of any new consent granted will cover at least the following key matters:

- Total quantity of biosolids to be processed on site on an annual basis.
- Types of acceptable waste and exclusions.
- Site Management Plan with provision for updating
- Monitoring and recording (groundwater, surface water, air quality, leachate, waste quantities).
- Review clauses.

As noted above, Ecocast cannot work with conditions restricting the WWTPs from which dewatered solids are obtained. Such a condition has no basis in effects.

3.12 ENVIRONMENTAL MANAGEMENT PLANS

Due to the nature of the vermicomposting activity there is no construction of anything involved. Therefore, no construction management plans are required.

The current Site Management Plan (SMP) will be updated to include conditions of the new consent. The latest update of the SMP is included as Appendix A. This was previously dealt with through the imposition of a condition of consent. The SMP references the following matters:

- Raw material management, including application to worm beds;
- Stormwater management;
- Odour and dust control;
- Pest control and vector attenuation;
- Work instructions/ standard operating procedures;
- Protection of any archaeological sites;
- Record keeping, raw material acceptance, quality assurance, quality control;
- Health and Safety, and signage;
- Environmental monitoring (soil, groundwater);
- Contingency plans (overflow, truck overturn etc);
- Compliance with resource consent conditions, including monitoring; and
- Complaints register.

A specific erosion and sediment control plan is not required for the operation as no substantive earthworks are required. Bunding is provided to contain stormwater for soakage adjacent the windrows. Bunds are shown in [Appendix F](#).

Stormwater control to the southern extension was covered in Point #6 of Table in Section 2 of the Section 92 Report to RM20-0043. Section 4.3 of [Appendix E](#) shows the bunds as built.

3.13 DURATION OF WORKS

Consent is sought for a period of 25 years.

4 RESOURCE CONSENTS REQUIRED

This section sets out the required resource consents for the continuation and extension of the existing vermicomposting operation under the RNRP, TRCP, and WDP, as well as the activities that are permitted by the KDP. The level of detail provided varies depending on how much information is considered necessary to demonstrate compliance.

Ecocast seeks the following resource consents from BoPRC to authorise the activity:

- Discharge of contaminants to land in circumstances where contaminants may enter groundwater in the Tarawera Catchment under **Rule DW-R8** of the RNRP and **Rule 16.8.5(a)** of the TRCP, being a **Discretionary Activity**.
- Discharge of contaminated stormwater to land in circumstances where contaminants may enter groundwater in the Tarawera Catchment under **Rule DW-R8** of the RNRP and **Rule 16.8.4(p)** of the Tarawera River Catchment Plan, being a **Discretionary Activity**.
- Discharge of odorous gases to air from a composting operation under **Rule AIR-R15(6)** of the RNRP, being a **Discretionary Activity**.

Resource consent is also sought from WDC for the following activity:

- To operate an intensive farming activity which constitutes a discretionary activity under Rule 3.4.1.1.32 of the WDP, being a **Discretionary Activity**.

Overall, the proposed activity constitutes a **Discretionary Activity** under the relevant plans.

4.1 PERMITTED ACTIVITIES

A CoC was issued by KDC on 28th April 2017, for the use of the land for intensive farming activities within the Rural Lifestyle Zone, as set out in rules C6.3 (specifically C6.3.1) and C6.4 of the KDP.

As part of the previous expansion proposal in 2019, KDC indicated the activity would still constitute a permitted “farming activity” on the existing site within the Kawerau District. Any change to the scale or extent of the activity could be dealt with as an exchange of letters rather than seeking a further CoC.

4.2 PROPOSED CONDITIONS OF CONSENT

Conditions of consent are requested on both the WDC and BOPRC consents as follows:

- Works associated with this consent are to take place during the following days and times:
 - 7 days a week from 7am to 6pm
 - Inclusive of public holidays (except for 25/24 December and 1/2 January)
- We would further ask that the conditions currently associated with the existing consent are rolled over to the new consent including any variations for the newly proposed area with the exception of any limitation on the source of the material as discussed in Section 3.11 above.

5 CONSULTATION

In accordance with Schedule 4 of the RMA, an application for resource consent should include in its assessment of environmental effects, the identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted.

The following consultation has already been undertaken with regards to the previously proposed and submitted resource consent application to increase the capacity of the vermicomposting operation (RM20-0043). The main difference between now and then is that the capacity proposed to increase is now only an additional 4,000 tonnes of biosolid material.

5.1 WHAKATĀNE DISTRICT COUNCIL

In 2019, WSP consulted with WDC to confirm the application of the WDP to the southern extension area. After due consideration of the information provided, WDC advised that:

“.....the most appropriate definition we believe fits this is to be an Intensive Farming activity. We’re happy with feedback on this, but as far as we can see, this is the most appropriate activity we can see listed in the plan.”

5.2 KAWERAU DISTRICT COUNCIL

In 2019 WSP consulted with KDC to inform them of the proposal, given that the proposal involves additional incoming material on the existing site (as well as the proposed site). As noted under 4.1 above, KDC indicated the activity would still constitute a permitted “farming activity” on the existing site.

KDC also advised that they were in discussion with WDC about proposed changes to the territorial boundary between the two districts. He explained that the proposed boundary change would result in land to the east of Tasman Mill, including Ecocast’s proposed site, being incorporated into Kawerau District. However, the boundary change process was placed on hold until after the October 2019 local government elections. No change has yet occurred in this space.

5.3 IWI/ HAPŪ

Appendix G summarises the current status of engagement with iwi.

Ecocast consulted with Ngāti Tūwharetoa ki Kawerau iwi and Ngāti Awa iwi as part of their application to BoPRC in 2008/2009 to use their existing site. These groups did not raise any concerns about the proposal. Ngāti Awa recommended, amongst other matters, that consent conditions be imposed to ensure that any adverse effects on waterbodies were mitigated; that appropriate stormwater management methods were implemented; and accidental spills of materials off-site are avoided.

As part of the 2020 engagement for RM20-043 Ngāti Tūwharetoa ki Kawerau were limited notified and made a submission that they would not support the importation of biosolids from outside their rohe. This was due to go to hearing before the application was placed on hold as described in section 2.1 above.

It is, acknowledged that as this issue was not satisfied at that time, that this may still be of concern. Consultation with Ngāti Tūwharetoa ki Kawerau in relation to this application has commenced again for the purpose of this new application, and is ongoing and their views will be communicated in due course.

Ngāti Rangitihi have formally advised that they will defer to Ngāti Tūwharetoa ki Kawerau in regards to this Application.

5.4 OWNERS CONSENT

Ecocast has obtained approval from the owners of the current and proposed site, to use the property for the vermicomposting activity.

5.5 ADJOINING LANDOWNERS

Approvals of all the existing landowners was obtained in 2020 for RM20-043 (**Appendix H**). These parties have been approached again for updated comment. The current status of these approvals is given in **Appendix H**.

6 ASSESSMENT OF EFFECTS

6.1 INTRODUCTION

In terms of section 104(1)(a) and (b) of the RMA, when considering this application, the consent authorities must have regard to any actual and potential effects on the environment of the activity. Any measure for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment resulting from the activity shall also be considered.

Clause 2(3) of Schedule 4 of the RMA requires an assessment of the activity's effects on the environment. The detail of this assessment should be commensurate with the scale and significance of the effects that the activity may have on the environment. The following assessment therefore includes, where relevant, the information required by Clause 6 and the matters outlined in Clause 7 of Schedule 4 of the RMA and the relevant assessment criteria of the Regional and District Plans.

In light of the above, and after considering the nature and scale of the activity, it is considered that the potential environmental effects (including consideration of the existing environment and permitted baseline) that need assessing are covered in the following sub sections:

- Positive effects
- Effects on groundwater
- Effects on surface water and wetland areas
- Odour Effects
- Dust Effects
- Cultural Effects
- Effects of Traffic Movements
- Effects on rural Character and Amenity

6.2 POSITIVE EFFECTS

Ecocast's vermicomposting activity provides social, economic and environmental benefits for the Bay of Plenty Region and beyond, as follows:

- Vermicomposting is an effective and environmentally beneficial method for dealing with Biosolids and other organic waste.
- This operation is aligned with the New Zealand Waste Strategy (Ministry for the Environment, 2002) and related guidelines by the Ministry for the Environment.
- The vermicomposting operation provides a sustainable method for the Bay of Plenty Region to remediate and recycle organic waste (including wood fibre product), which otherwise would most likely be sent to landfill.
- The operation turns what has been seen in the past as a problem waste stream only fit for a landfill, into a high quality vermicast/ compost used in the horticultural and agriculture industries.

- The technology is recommended and supported by various city and territorial councils in New Zealand.
- Diverting biosolids away from the local authority landfills reduces leachate loadings on council treatment facilities.
- Processing organic wastes through an aerobic process avoids the methane generation that occurs when organic wastes are landfilled in anaerobic conditions and so is beneficial for climate change.
- The existing vermicomposting activity provides employment with 3 FTE in the Kawerau local area and the proposed extension of the activity will ensure this continues.

Overall, the vermicomposting activity provides significant social, economic and environmental benefit and contributes to avoiding the costly and less sustainable alternatives (i.e. landfill) for WWTP waste streams and wood substrate.

The proposed extension of the vermicomposting operation will strengthen and increase the above social, economic and environmental benefits.

6.3 EXISTING ENVIRONMENT AND PERMITTED BASELINE

The existing environment includes already consented activities. Therefore, in this case the existing site environment includes the well-established vermicomposting activity, and also includes the neighbouring Tasman Mill, the adjoining logyard, and dairy farms in the wider surrounding area. To date the effects of the vermicomposting activity on groundwater, surface water and air quality have generally been controlled effectively since their inception in 2009 at the current consented site, as evidenced by the site monitoring.

There was an odour event in December 2023 the background to which is explained in Appendix C. Potential nuisance effects of odour and dust have generally been managed up to this summer point without detriment to adjoining properties.

The permitted baseline under the KDP for the Rural Lifestyle Zone provides that farming is a permitted activity. The WDP also includes farming as a permitted activity in the Rural Foothills Zone. However, as described in section 5.1 above, WDC deem the activity to be an “intensive farming activity”, which triggers consent.

As farming is provided for as a permitted activity in the Rural Foothills Zone, this forms part of the permitted baseline of effects. The WDP definition of “farming” includes agriculture, pastoral farming, organic farming, horticulture, floriculture, beekeeping, dairying, grazing, cropping, horticulture and orcharding. It also provides for topdressing, spraying and the application of additives (including fertiliser) to the soil.

6.4 EFFECTS ON GROUNDWATER

The principal effect of concern is that the windrows leach nitrogen to groundwater. This has led to elevated levels of nitrate in the shallow groundwater at the northern end of the site ([Appendix D](#) and [Appendix E, Section 3.0](#)).

A thorough investigation of this has been undertaken, leading to the groundwater remediation project being carried out under RM23-0129. The target for this project (Condition 7.3) is that the

water returned to the ground after treatment shall not exceed a rolling median of 8.5 g/m³. This is 70% of the NZDWS MAV for Nitrate-N.

Achieving this at the downstream end of the site will ensure that after allowing for mixing in the general groundwater that the nitrate in the general groundwater downstream of the site remains well below the MAV, ensuring that adverse effects on groundwater arising from the activity are remedied to an acceptable level.

Cadmium is slightly elevated in the bore GW2 and is above the MAV.

6.4.1 NITROGEN LEVELS AND TRENDS

Monitoring of Bore GW1, which lies at the northwest corner of the current site, does not show any significant trends of TON. However, Bore GW1 does show a slight increase of total nitrogen and total kjeldahl nitrogen (TKN). Detailed results of the monitoring data are illustrated graphically **Appendix E**.

6.4.2 COMPARISON WITH TYPICAL DAIRY FARM ACTIVITIES AND BACKGROUND WATER QUALITY

In considering the actual and potential effects of the proposal on groundwater quality, it is relevant to compare such effects to groundwater quality associated with typical dairy farm land use in the area. A recent report by Golder Associates NZ Limited for Edgecumbe Fonterra, showed levels of ammoniacal nitrogen within the groundwater beneath several farms on the Rangitāiki Plains. The findings were that there were elevated concentrations of ammoniacal nitrogen within the bores were associated with farms that had been recently irrigated.

Of notable interest was the number of sites which were not considered within the irrigation envelope which also had elevated levels of ammoniacal nitrogen; of which 4 sites ranged from 6.2 to 7.8 g/m³. These levels may relate to agricultural activity but could also be related to high organic matter levels in the peat subsoils. This demonstrates the elevated levels of ammoniacal nitrogen within the groundwater that may occur as a result of vermicomposting activities, are comparable with levels naturally occurring or caused by other permitted land use activities.

6.4.3 COMPARISON TO FRESHWATER SPECIES PROTECTION GUIDELINES

Appendix E compares the nitrate-nitrogen, zinc and cadmium levels in groundwater to ANZECC Guidelines at 80% and 90% levels of protection. This finds that after allowing for the travel time to any surface discharge of the groundwater and dilution/attenuation that will occur in the wider groundwater system that the groundwater emanating from the vermicomposting site will not be of significance to surface waters.

6.4.4 COMPARISON TO DRINKING WATER STANDARDS NZ

The water quality downstream of the current site has been analysed against the Drinking Water Standards New Zealand (DWSNZ, revised 2018). Of the parameters tested at the current site, pH cadmium and Arsenic did not meet the Maximum Acceptable Value (MAV). Arsenic and pH have remained stable since prior to development of onsite activities. Ammoniacal-N, mercury and all heavy metals except arsenic and cadmium met the applicable MAV's from the DWSNZ, 2018. Arsenic is naturally high in the area from geothermal origin.

Nitrate-N at bore GW2 has exceeded the NZDWS since 2020. This has been the driver for the nitrate remediation project consented under RM23-019.

E. coli levels have remained below detection (<1 cfu / 100ml) at the current and former sites, thereby showing no leaching of E. coli bacteria from the windrows.

The shallow groundwater in the area is not of potable quality without treatment, being exposed to a number of agricultural sources of nutrient and faecal contamination.

6.4.5 PFAS

PFAS is an emerging contaminant of concern in biosolids. PFAS chemicals are now very widespread in the environment due to their use in a huge range of industrial processes and consumer products.

The issue of PFAS is not in any way unique to Ecocast's operation and has ramifications for biosolids from every wastewater treatment plant (WWTP) and septic tank effluent field in NZ. Guidelines for PFAS in biosolids and the subsequent use of that material or products made from it are currently under development/revision in the PFAS National Environmental Management Plan (NEMP) version 3. This Guideline document, prepared in 2023 and put out for consultation has yet to be adopted at the time of preparing this Application.

To be proactive, Ecocast have requested information on PFAS levels in the raw biosolids being supplied by the WWTPs currently sending material to the site. Limited testing undertaken in the raw biosolids ex Tauranga and Rotorua WWTPs to date has shown low levels of PFOS family compounds slightly above the "unrestricted use" criteria of NEMP v3 Table 3, but well below the "restricted use" criteria. The PFAS profile in the finished product is similar to the raw material indicating the compounds are largely unaffected by the vermicomposting, as would be expected.

While the Applicant recognises the potential significance of PFAS contamination of biosolids, their position is that it is an issue beyond their control and all they can reasonably be expected to do is undertake to work within whatever Guidelines eventuate from the NEMP v3. We anticipate that in due course PFAS criteria will be incorporated into a revision of the Biosolids grading, but when that may happen is unknown.

6.4.6 CONSIDERATION OF ALTERNATIVE PROCESSING METHODS AND CONTAINMENT

The Assessment of Effects identifies that one of the two principal environmental effects arising from the vermicomposting operation is that nitrogen (as Ammoniacal-N) leaches from the windrows and is able to readily infiltrate the porous pumice soil and result in elevated nitrate-N levels in the shallow groundwater beneath the site.

Ideally if this leachate could be captured then this effect could be avoided. Ecocast have given careful consideration to how the process and/or site could be modified. Possible options are:

- Change the process to a covered windrow by using a largely waterproof cover that would shed stormwater as clean runoff. However the vermicomposting is by nature a largely aerobic process which also requires moisture to keep the mix suitable for the worms. Covering would fundamentally change the process to a composting one requiring forced aeration. This would no longer be vermicomposting and is a much higher cost operation in terms of both capital and operation. At this stage the economics of the operation do not support this approach.

- Line the site. It would be technically feasible to completely line the site (eg with a GCL and soil liner), install a drainage system and collect the leachate for subsequent treatment or disposal by irrigation to crops. Unfortunately, this approach is not economically sustainable. The cost of this was estimated as part of the RM20-0043 s92 response ([Appendix K](#)). Our comment to BOPRC at that time (in an email to Sarah Hills of 23rd August 2020) was:

In regards lining the site, it is simply not viable economically. Key points are:

- *There is some 21 ha in total of land occupied at various stages by the windrows*
- *It is not just a matter of placing a lining. Firstly the ground would have to be shaped to form drainage channels so leachate can be collected. No point in lining the site and letting the water run over the edge of the liner.*
- *The foundation has to well compacted and cleared of any sticks or stones that will damage the liner. Probably need geofabric or a sand blanket underneath and over a liner to protect it*
- *Heavy machinery and the excavators turning the material work over the site so any liner – probably be a LDPE or a GCL – would need minimum of 500mm of cover soil to protect it. Liner with holes is no good either.*
- *Collected drainage water would then have to be pumped from several locations to storage lagoons for subsequent irrigation on still more land.*
- *Based upon recent landfill lining tenders from Taupo I would see the base earthworks and lining alone coming in at around \$20/m² (\$200k/ha) ie \$4.2M. Plus all the drainage, leachate collection, pumping, power supply, storage lagoons and irrigation.*

Noting this costing was 2020, and costs have substantially escalated since then. There is no way the Ecocast operation can sustain capital and operational investment on this scale. If BOPRC insist that the site be lined then the operation will shut down.

6.4.7 SUMMARY OF EFFECTS ON GROUNDWATER

Although there is evidence of increases of nitrogen within the groundwater at the current site, the remedial action underway provides a mechanism to reduce and manage the nitrogen levels resulting from leaching. Provided these are continued to be monitored the elevated nitrogen is highly unlikely to pose a measurable effect or significant threat to freshwater receiving environments at the point where the shallow groundwater ultimately discharges.

6.5 SURFACE WATER AND WETLAND ECOLOGY

The combined site of the existing operation and southern extension is in proximity to ephemeral surface water ponds and a wetland type environment. The potential effects to these environments include surface water runoff, soakage to ground and groundwater movement.

The soils in the site are high permeability ([Appendix D](#) refers) and surface soakage has been sufficient to deal with surface water over the duration of the previous consent period. Refer the test pit logs from the extension area in [Appendix A](#).

Surface water runoff at the existing area can continue to soak to ground. To the south and the newly proposed extension, impacts of sediment contaminated surface runoff and contaminated

runoff on land to the south (including the wetlands and ponds) can be mitigated by building peripheral boundary earth bunds where necessary ([Appendix F](#)).

Groundwater flows in a north to northeast direction at the current site as calculated by triangulation of the 14 bores at the site. As groundwater flow direction is similar at the proposed new southern extension, potential effects from groundwater to the ephemeral surface water bodies are very unlikely to occur as the ground water moves in the other direction. As concluded in the [Appendix E](#), it is highly unlikely that nutrient levels will exceed current guidelines for 90% and 95% species protection for freshwater receiving environments.

Given the surface water levels and groundwater pathways, lack of physical connection coupled with the likelihood that any nitrogen leaching to groundwater will remain within the 95% species protection guideline, we consider the potential effects to the surrounding surface water and wetland environment may be discounted.

The land at the southern area slopes away from the access track at a rate of approximately 0.9% - i.e. 2m over 213m. The soils have very high permeability, and it is assumed there will be high infiltration under most situations.

An 800mm bund exists along the southern boundary providing physical obstacle to surface water runoff from the discharge fields into the surface water ponds or wet land area. The bund covers the east, south and western parts of the disposal fields.

The potential effects on the adjacent wetlands and ephemeral flow paths were traversed as part of the assessment of RM20-043 in 2020-21. These matters are covered in the Section 92 response ([Appendix F](#)).

Ecological values were covered in Point #7 of Table in Section 2 of the Section 92 Report to RM20-0043. Photo 3 of the vegetation area to the south of the extension area is also informative.

[Appendix E](#) Section 4.3 is also relevant.

6.6 ODOUR EFFECTS

Odour is the second key area where the vermicomposting operation can cause effects of significance which extend beyond the boundary of the operational site. A full assessment of odour, aerosol and dust at the site is contained in [Appendix B](#). Under normal operation the vermicomposting activity generates odour for short periods relating to defined activities. Odour is associated with specific activity on site being,

- when new waste is delivered to the site and loaded to the mixing wagon,
- laying out of new windrows and
- turning of fresh windrows.

When no activity is taking place on the site then odour release is minimal.

There is a risk in placing biosolids to land that there will on occasions be odour that drifts beyond the boundaries of the site. The location of the combined sites is generally downwind of the Kawerau township in the predominant westerly wind. The distance from occupied properties to the west is approximately 1.7km. The property most at risk from odour is the logyard immediately to the north. A light southerly wind will drift odour into this area.

Ecocast employ a number of practices and procedures to avoid or mitigate the discharge of odour. These are set out in detail in the Site Management Plan (Appendix A) and specifically Section 10 thereof.

The staff responsible for the operation of the site and ensuring consent requirements are met live less than 30mins away from the site. Therefore, there is an effective response time to incoming delivery or out of ordinary occurrences.

Developments to the management of incoming waste streams have recently minimised the generation of odour by ensuring additional substrate is on site ready to be mixed and the incoming waste is dealt with in a timely manner.

Additional measures undertaken by Ecocast to ensure risk of odour effects are minimised include the relocating the area where incoming waste is received approximately 400m south near the boundary of the current and proposed sites. At this location the receiving bunker is well screened by topography. This change will directly benefit the log yard by shifting the primary odour source much further away from their boundary and the prevailing winds will no longer carry odour in that direction.

Biosolids placed in the pit are covered by approx. 200mm of substrate immediately after the load is dropped off. Deliveries are required to be announced 30mins prior to arrival to ensure someone is ready to take immediate action of delivered product.

A three day supply of substrate is maintained on site at any time. The source of the substrate material is the Whakatane Board Mills which is only 30 mins away.

An unacceptable odour event occurred over December -January 2023/24. This was a result of human error not following operational procedures and is not in the Applicant's view reflective of the normal effect of the operation. An explanation of this odour event is included as [Appendix C](#).

6.7 DUST EFFECTS

There is the potential for dust to be generated by the vermicomposting activity by vehicles travelling to and from the site and the distribution of material on site. Limiting of vehicle speed within the site will minimise the amount of dust produced by vehicle movement.

Management of dust is primarily an operational matter and dust generation has not been an issue or nuisance at the current vermicomposting site. The material in the windrows is moist (it has to be for the vermicomposting to function). Therefore, ensuring the windrows maintains moisture is essential for the process.

Much less dust would be generated off the Ecocast operation than the adjoining paper mill and logging yard sites. However a water cart can be used if dust from the roadways becomes an issue.

Continued access to the existing activity will be via the northern sealed section of Tarawera Road (McKee Rd) and within the site will be via a well-maintained metaled accessway. Vehicles (trucks) delivering material on site are slow moving and waste material distributed on site is moist, which further minimises the potential for dust generation. The predominant wind is westerly and there are no dwellings downwind within proximity of the site, to the east and south.

The nature of the vermicomposting activity combined with Ecocast's management practices including those mitigation techniques described above, will ensure that any dust generated by the expanded operation is mitigated to an acceptable level so that it does not cause a nuisance beyond

the site boundaries. Dust control on an operation level is addressed in Section 11 of the Site Management Plan ([Appendix A](#)).

6.8 CULTURAL EFFECTS

Ngāti Tūwharetoa Iwi and Ngāti Awa Iwi are acknowledged as the cultural specialists in this area. This assessment is not being made on what is or is not culturally significant.

The works will have no impacts on any recorded archaeological site of significance, with little to no disturbance of soil associated with the activity, which largely occurs on top of existing ground. There are no recorded sites within the proposed or existing operation site or the immediate surrounding of the project site. The northern part of the proposed site has already been consented for this operation, while the southern extension has previously been disturbed for farming or rural activities. The proposed activity to the south will not excavate further.

Ecocast recognise that Ngāti Tūwharetoa and Ngāti Awa have statutory acknowledgments over the area contained within the Tarawera Catchment; in particular, the Tarawera River. The ongoing monitoring of groundwater quality and levels at Ecocast's current site indicate that the flow direction is to the north to northeast and therefore away from the surface water bodies and wetlands to the south of the proposed site. As the existing and proposed sites are located to the east of Tarawera River, the activity will not have any direct influence on this valuable watercourse.

Ecocast recognise the importance of freshwater bodies to tangata whenua and will ensure that the expanded operation is managed and monitored so that any adverse effects on groundwater do not adversely affect freshwater receiving environments.

While acknowledging the concern over "importation" of biosolids as expressed by Ngāti Tūwharetoa ki Kawerau, the transport of wastes including biosolids to centralised processing sites is a fact of life of our modern wastewater infrastructure across all NZ. Furthermore, sewage wastes from Kawerau (screenings) are routinely transported out of the rohe to the Waikato for disposal.

Taking into account the above history and that the proposal will not result in change to the nature or type of environmental effects, we consider that the proposal will not therefore compromise cultural values.

6.9 EFFECTS OF TRAFFIC MOVEMENTS

Bio waste is delivered to, and the compost product is collected from, the existing vermicomposting site by trucks operated by contractors. There are no retail sales of products from the site and no public access to the site. The nature of the operation will not change from the existing consented activity to the proposed expanded activity. The approximate typical daily traffic movements generated by the existing vermicomposting activity are:

- Incoming Material:
 - Biosolid waste delivery: 1 truck & trailer and 1 single truck
 - substrate delivery: 3 trucks.
- Outgoing Material:
 - 3-4 trucks.

Ecocast anticipate that the proposed extension of the activity may result in the following additional daily traffic movements:

- Incoming Material: Approximately 1 truck & trailer of biosolids and 2 substrate trucks.
- Outgoing Material: Approximately 2 trucks.

Vehicular access to the combined existing and proposed sites will continue to be via Tarawera Road. This heavy-duty sealed pavement is designed to service forestry traffic and is therefore suitable for the contractors' vehicles that transport material to and from the vermicomposting activity. Access to Tarawera Road is via SH34 (Tamarangi Drive) and there are no direct traffic effects on local authority roads. Notwithstanding this, the type and level of traffic generated by the vermicomposting activity is similar to numerous permitted farming activities such as dairying and cropping which generate vehicles such as milk tankers/ cattle transport trucks and large crop harvesting machines, respectively.

In summary, the land is zoned for rural related activities by the relevant district plans. The farming activity is deemed appropriate for the land by the district plans, therefore, it is concluded that the impacts and effects of traffic generated by the activities are in keeping with the intention of the district plans and the effects can be managed to an acceptable level.

6.10 RURAL CHARACTER AND AMENITY VALUES

"Amenity values" are defined in the RMA as being "those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes."

The Rural Foothills Zone provides for primary production activities, as well as residential and other supporting activities. Farming is provided for as a permitted activity and therefore land within the Zone is generally anticipated to be of a rural character, but with provision for dwellings and farm buildings. Vermicomposting is a farming activity and is therefore entirely compatible with the rural character envisaged by the rural foothills zone, and rural lifestyle zone.

The amenity of the wider environment in which the vermicomposting activity is located is influenced by the Tasman Mill to the northwest/ west, the log yard to the north and the vast area of uninhabited pastoral land to the east and south of the combined current and combined sites.

Taking into account the existing environment and permitted baseline, the proposed extension of the vermicomposting activity will be compatible with the rural character of the rural foothills zone and the rural lifestyle zone and the amenity values of the neighbouring environment.

6.11 SUMMARY

The assessment above highlights the positive effects that the continued operation of the vermicomposting operation is having on the social, environmental and economic factors related to the biosolid disposal process and industry. The assessment above demonstrates that any potential adverse effects as a result of the remediation process are avoided, remedied or mitigated to an acceptable level.

For the purposes of assessing public notification requirements under section 95D and identifying any affected parties under section 95E, the residual effects of the project are considered to be minor. See the notification assessment at Section 7 of this application for further details.

7 STATUTORY ASSESSMENT

7.1 INTRODUCTION

The RMA is New Zealand’s principal statute for managing the use of land, air and water. The overarching purpose of the RMA, as set out in section 5, is to “to promote the sustainable management of natural and physical resources”. This section of the AEE sets out the framework under the RMA that applies to the resource consents that are sought from BoPRC and WDC, it does so in the following sections:

- Public and Limited Notification Assessment – sections 95A and 95B
- Consideration of relevant planning provisions – section 104(1)(b)
- Consideration of any other relevant matters – section 104(1)(c)
- Purpose and Principles of the RMA – Part 2

7.2 NOTIFICATION ASSESSMENT

7.2.1 SECTION 95A – DETERMINING PUBLIC NOTIFICATION

The process set out in section 95A of the RMA for determining public notification is summarised in Table 7-1, together with an assessment of this application against each step.

Table 7-1: Step by step process for Public Notification

Step	Description of Process	Assessment
1	<p>Mandatory public notification in certain circumstances.</p> <p>An application must be publicly notified if:</p> <ul style="list-style-type: none"> • the applicant requests public notification • public notification is required under Section 95C (which relates to notification after a request for further information or report) • the application is made jointly with an application to exchange recreation reserve land. 	<p>The applicant has not requested notification.</p> <p>Section 95C is not relevant as no further information has been requested.</p> <p>No exchange of reserve land is involved.</p> <p>PROCEED TO STEP 2</p>
2	<p>If not required by step 1, public notification is precluded in certain circumstances.</p> <p>An application cannot be publicly notified if:</p> <ul style="list-style-type: none"> • a rule or national environmental standard (NES) precludes notification. • the application is for one or more of the following, but no other, activities: <ul style="list-style-type: none"> a) a controlled activity 	<p>There are no rules or NES provisions which preclude notification.</p> <p>The application is not for a controlled activity or boundary activity.</p> <p>PROCEED TO STEP 3</p>

Step	Description of Process	Assessment
	<p>b) a restricted discretionary, discretionary, or non-complying activity, but only if the activity is a boundary activity (defined in Section 87AAB).</p> <p>If the application is for multiple activities, public notification is only precluded for the application as a whole if each individual activity is precluded from public notification.</p> <p>If public notification is precluded under this step, then step 3 doesn't apply but consideration under step 4 is required (special circumstances).</p>	
3	<p>If not precluded by step 2, public notification is required in certain circumstances.</p> <p>Other than for those activities in step 2, public notification is required if:</p> <ul style="list-style-type: none"> • a rule or NES requires public notification • the assessment under Section 95D determines that the activity will have, or is likely to have, adverse effects on the environment that are more than minor. <p>If the application is for multiple activities, and any part of that application meets either of the above criteria, the application must be publicly notified in its entirety.</p>	<p>There are no rules or NES provisions which require public notification.</p> <p>The assessment of effects at Section 6 found that the adverse effects of the activity on the environment are avoided, remedied or mitigated to an acceptable level.</p> <p>For the purposes of section 95D, the assessment of effects determined that any adverse effects on the environment will be minor.</p> <p>PROCEED TO STEP 4.</p>
4	<p>Public notification in special circumstances</p> <p>If notification is precluded under step 2, or isn't required under step 3, consideration must be given to whether special circumstances exist that warrant public notification of the application. The presumption for special circumstances has changed so that, if the consent authority determines special circumstances exist, the council must notify the application (i.e. it is not discretionary).</p>	<p>There are no special circumstances that apply in this instance.</p> <p>PUBLIC NOTIFICATION NOT REQUIRED</p>

7.2.2 SECTION 95B – DETERMINING LIMITED NOTIFICATION

The process set out in section 95B of the RMA for determining limited notification is summarised in Table 7-2, together with an assessment of this application against each step.

Table 7-2: Step by step process for Public Notification

Step	Description of Process	Assessment
1	<p>Certain affected groups and affected persons must be notified.</p>	<p>The Project area is not in the CMA. Therefore, there are no customary rights groups or customary marine title groups affected by the Project.</p>

Step	Description of Process	Assessment
	<p>If the consent authority determines that certain people or groups are affected, these persons/groups must be given limited notification:</p> <ul style="list-style-type: none"> affected protected customary rights groups affected customary marine title groups (in the case of an application for a resource consent for an accommodated activity) an affected person under Section 95E to whom a statutory acknowledgement is made (if the proposed activity is on or adjacent to, or may affect, land that is the subject of a statutory acknowledgement) 	<p>Ngāti Tūwharetoa and Ngāti Awa have Statutory Acknowledgements over the Tarawera River in this area. However, the existing and proposed sites are located to the east of Tarawera River and will not have any direct influence on the land/water subject of the statutory acknowledgement..</p> <p>PROCEED TO STEP 2</p>
2	<p>If not required by step 1, limited notification is precluded in certain circumstances. An application cannot be limited notified if:</p> <ul style="list-style-type: none"> a rule or NES precludes limited notification of the application the application is for a controlled activity (but no other activities) that requires a resource consent under a district plan (other than a subdivision of land) <p>If the application is for multiple activities, limited notification is only precluded for the application as a whole if each individual activity is precluded from limited notification. If limited notification is precluded under this step, then step 3 doesn't apply but consideration under step 4 is required.</p>	<p>There are no rules or NES provisions which preclude limited notification. The application is for a discretionary activity.</p> <p>PROCEED TO STEP 3</p>
3	<p>If not precluded by step 2, certain other affected persons must be notified.</p> <p>Except for boundary activities and any activities prescribed under the regulations relating to notification of consent applications (section 360G(1)(b)), the consent authority must notify any other person they determine to be affected under section 95E.</p> <p>For boundary activities, only those persons whose written approval would have been required under new section 87BA are eligible to be notified. These eligible persons must be notified if they are determined to be affected persons under section 95E.</p>	<p>For the purposes of section 95E, the assessment of effects determined that any adverse effects on the environment will be minor.</p> <p>However, engagement with Iwi and adjoining occupiers is still underway. Pending completion of this engagement, these parties may or may not be determined to be affected persons under section 95E.</p> <p>The application is not for a boundary activity or one of the specified activities prescribed in the RMA or in regulations.</p> <p>LIMITED NOTIFICATION TBC</p>

Step	Description of Process	Assessment
4	Further notification in special circumstances. If the consent authority determines special circumstances exist that warrant limited notification of the application to any other persons not already determined to be eligible for limited notification (excluding persons assessed under section 95E as not being affected persons), the council must give limited notification to those persons (i.e. it is not discretionary).	There are no special circumstances which are relevant to this application. LIMITED NOTIFICATION NOT REQUIRED

7.2.3 SUMMARY

In light of the above, and in accordance with s95E of the RMA, pending completion of engagement some iwi and adjoining occupiers may or may not be determined to be affected persons under section 95E. Therefore, there may be a requirement for limited notification of this application.

7.3 RELEVANT PLANNING PROVISIONS

The RMA is the overarching statute for the sustainable management of physical and natural resources. Section 104(1)(b) of the RMA lists the matters that a consent authority must have regard to in determining whether a resource consent application should be granted. This includes any relevant provisions of:

- (i) a national environmental standard;
- (ii) other regulations;
- (iii) a national policy statement;
- (iv) a New Zealand coastal policy statement;
- (v) a regional policy statement or proposed regional policy statement
- (vi) a plan or proposed plan

In this case, the relevant provisions to be considered are contained in the following documents:

- WDP
- RNRP
- TRCP
- Bay of Plenty Regional Policy Statement (RPS)
- National Environmental Standard for Freshwater (NES-F)
- National Policy Statement for Freshwater Management (NPS-FM)

An assessment of the application against the relevant provisions in these documents is provided in the following subsections.

In accordance with the principles established through the RJ Davidson Family Trust case, the relevant provisions of the statutory planning framework are considered starting with the lower-order documents and progressing to the higher-order documents in turn. If sufficient policy direction is provided in the lower-order plans, a detailed assessment of the higher-order documents is not necessary as it would not add anything to the evaluative exercise.

In this instance we believe that sufficient policy guidance exists at the district and regional levels that detailed analysis of the higher order policy documents is not required.

7.3.1 WHAKATANE DISTRICT PLAN

The WDP sets objectives and policies through which the significant environmental issues of the district are to be addressed. The WDP does address the issue of Intensive farming within the foothills zone and through Rule 3.4.1.1.32 the operation of an intensive farming activity with the foothills zone is a discretionary activity. The assessment of the relevant objectives and policies is provided in Table 7-3 below.

Table 7-3: Relevant objectives and policies of the WDC Operative District Plan.

RELEVANT PROVISIONS	COMMENTS
Objective Rur1 and Policy 2	Vermicomposting activities are a modern and beneficial method for dealing with the disposal of organic waste in a way that does not further labour the environment with potentially adverse bi products. This type of activity cannot be undertaken in urban land use areas, therefore rural zones are suitable for this.
Objective Rur 3 and Policy 1	As identified, there are benefits to this type of land use activity, and when managed in a way that long term significant adverse effects can be avoided or mitigated the rural land zoned as intensive farming in the WDP has been allocated for this type of land use. Approval of this continued land use activity will therefore, be allowing people and communities to provide for their social, economic and cultural well-being as discussed in the positive effects section 6.2 above.

7.3.2 BAY OF PLENTY REGIONAL NATURAL RESOURCES PLAN

The RNRP sets out objectives, policies and methods to address issues of the use, development and protection of natural resources in the region. Following Plan Change 13 becoming operative in 2023, the RNRP also includes all provisions relating to air which were formerly covered through the Regional Air Plan. Table 6-4 below provides an assessment of the relevant objectives and policies under the RNRP.

Table 7-4: RNRP objectives and policies assessment.

RELEVANT PROVISIONS	COMMENTS
Kaitiakitanga KT O4 KT O5 KT O6	The water and land concerns of tangata whenua have been considered. Ngati Tūwharetoa ki Kawerau raised the concern about the importation of biosolid from outside of their Rohe, while this was not an issue for Ngāti Awa or Ngāti Rangithi.

RELEVANT PROVISIONS	COMMENTS
	As the proposal does not involve any change to the nature of the activity, the water and land effects will not alter.
Integrated Management of Land and Water IM O3 IM O4 IM O5 IM O6 IM O7	<p>There is the potential for the vermicomposting operation to impact ground water quality. There are existing monitoring bores in place to watch this and although there has been a raised reading of nitrogen this has been dealt with through a RCA for water take filtration and re injection to ensure ground water levels are within required background levels.</p> <p>The area is geothermally influenced, with a porous pumice substrate giving it a high permeability, open to surface water contaminants from farming activities etc. The ground water is not what would be regarded as high quality to start with. High nitrate GW is however, being pumped out and treated then discharged back to ground to improve quality.</p> <p>The vermicomposting activity has considerable social, cultural and economic benefits. Vermicomposting involves the deposition of biosolids and other organic wastes that would otherwise be disposed of as waste to landfill. The end product of vermicomposting is nutrient-rich compost and fertiliser used in farming and horticulture to enhance the natural quality of soils and replace manufactured chemical fertilisers.</p>
Land Management LM O4	It is not anticipated that the vermicomposting operation (which turns biosolids into fertile composting) will adversely impact on the regions soil health.
Discharges DW O1 DW O3 DW O7 & DW P13 DW O4 DW O8	<p>It is anticipated that ground water mixing will take place and that eventual filtration will also take place. The existing consent conditioned these through monitoring requirements. If any alerts or alarms were raised then action would be undertaken to mitigate or remedy to an acceptable level.</p> <p>If the process outlined above are undertaken and successful, then the activity will have little impact on the capacity for this to be achieved. If not, then monitoring will identify and remedial action can be taken.</p> <p>The discharge of biosolids to ground has been identified as a processing technique that reduces some of the associated side effects such as greenhouse gases produced in landfill activities. The size and scale of activity vs. the size of the disposal fields and method and time taken for the vermiculture to impact the material ensures that natural treatment capacity of soils is not exceeded. Erosion and sediment control in the form of bunding will ensure than surface water run off does not detrimentally impact other surface water bodies. The operation is not within the realm of influence of Rotorua Lake, Ohiwa, or Tauranga Harbours.</p> <p>Discharges will be appropriate to the receiving environment but will still seek to avoid adverse effects on the environment through erosion and sediment controls, monitoring, and mixture of biosolid to substrate.</p> <p>The site is rural. Stormwater and surface water from farming activities are generally managed through onsite containment and soakage. There will be</p>

RELEVANT PROVISIONS	COMMENTS
	other methods of mitigation utilised to reduce surface water runoff and these are set out in the Site Management Plan.
Air Quality Objective AIR-O3 Policy AIR-P1 Policy AIR-P3(1) Policy AIR-P4(1)	<p>The vermicomposting activity has been in existence since 2009 (nearly 15 years). The operation has been undertaken with some complaints of smell from surrounding parties. There was an operational issue arising from human error in the summer of 2023/24, which resulted in a temporary increase in odour effects to surrounding properties, and action has been taken to fix this situation. The activity has been sustainably managed in respect of discharges of contaminants to air. Through to application of and compliance with conditions to the original consent, including adverse effects on amenity values and the receiving environment.</p> <p>The increase in activity from that which has been consented previously is undertaken on land in the rural foothills and rural lifestyle zones, where sensitive residential activities are setback approximately 1.3 kilometres from the operation boundary.</p> <p>The small increase in overall volume of biosolids combined with a relatively larger increase in the overall footprint of the operation should mean any odour effects are lessened in concentration due to biosolids being spread over a larger area</p>

7.3.3 TARAWERA RIVER CATCHMENT PLAN

The TRCP sets out objectives, policies and methods to address issues of the use, development and protection of natural resources in the catchment of the Tarawera River. Table 6-5 below provides an assessment of the objectives and policies relevant to the application under the TRCP.

Table 7-5: TRCP objectives and policies assessment.

RELEVANT PROVISIONS	COMMENTS
Objective - 16.8.2	The discharge of biosolids to land for natural consumption by worms which is currently considered to be a better source of discharge than landfill which produces a greenhouse gas by product as a result. The process does not reduce the quantity of ground water and to date (as the initial consent period rolls down) there has been only one negative ground water reading which is being remediated through resource consent RM23-019. Therefore, quality of ground water has remained protected (and monitored) as well.
Policy - 16.8.3(h) 16.8.3(i) 16.8.3(j) 16.8.3(k)	The proposed activity requires minimal land disturbance through infrastructure, construction, or earthworks. As a farming activity, the vermicomposting is anticipated within the two zones (rural foothills, and rural lifestyle zone). Therefore, promoting the use of land based contaminant disposal. In this instant the biosolid is compost into a nutrient rich fertilizer, which when applied to land elsewhere, contributes to sustaining the productive potential of rural land.

RELEVANT PROVISIONS	COMMENTS
	Monitoring bores have proven to succeed in this environment, identifying elevated nitrogen levels in one instance only, providing the platform to instantly remedy this before detrimental environmental damage could result.

7.3.4 BAY OF PLENTY REGIONAL POLICY STATEMENT

The Bay of Plenty RPS is a high-level regional document containing objectives and policies which seek to achieve the purpose of the RMA by promoting the sustainable management of the region's natural and physical resources. The RPS is an integrated approach to the sustainable management of these resources and is implemented through the lower-order plans such as the District and Regional Plans (see above).

For the reasons outlined in the assessment of effects at Section 6 of this application, it is considered that the activity is not inconsistent with the RPS. The relevant RPS objectives and policies are those relating to air quality (odour and discharge of contaminants) and Māori cultural values. The key relevant objectives and policies are addressed in Table 7-7.

Table 7-6: Relevant Regional Policy Statement objectives and policies assessment.

ISSUE	RELEVANT OBJECTIVES	RELEANT POLICIES	ASSESSMENT
Air Quality Avoid, remedy or mitigate adverse effects of odours and particulates on air quality, including discouraging reverse sensitivity.	Objective 1	Policies AQ 1A & AQ 2A	Extension of the vermicomposting activity may result in increased potential for odour generation. Ecocast's management practices will ensure that odour generated does not cause a nuisance beyond the site boundaries.
Māori Cultural Values Recognise kaitiakitanga and safeguard the mauri of water, land and air resources.	Policy AQ 3A:	Policy IW 3B & IW 5B	Ecocast recognise the importance of freshwater bodies, including the Tarawera River, to tangata whenua. The management and monitoring practices on the existing and proposed site will continue to ensure that adverse effects on these water bodies are avoided, remedied, or mitigated to an acceptable level. Ecocast consulted with tangata whenua as part of their previous applications, and consultation in relation to this application is ongoing. The proposal does not involve any change to the nature or associated effects of the vermicomposting activity.

7.3.5 NATIONAL ENVIRONMENTAL STANDARD FOR FRESHWATER (NES-F)

The southern part of the new project site is within proximity of a wetland environment. The NES-F has been applied insofar that there does not appear to be any regulation relating to the disposal of biosolids to ground in the vicinity of a wetland area. Indeed regulation 55 (3) has been considered however, if the land use activity is not defined in the standard, then conditions of use could not apply to the activities. Therefore, no further assessment has been undertaken under the NES-F.

This notwithstanding, detailed analysis of the groundwater hydrology has conclusively demonstrated that groundwater is flowing away from the wetlands, with no hydraulic connection. This point was accepted by BOPRC in the technical review of RM20-043.

7.3.6 NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT (NPS-FM)

The proposal takes into consideration the objective of the NPS-FM and its policies. Ensuring the natural and physical water resources are managed in a way that prioritises the health and well-being of ground water, but also the needs of people and their ability to provide for social economic and cultural wellbeing.

Section 6 above identifies the methods proposed to ensure the continued operation of the vermicomposting activity can be managed in a way that avoids or mitigates adverse impacts on the ground water therefore, giving effects to Policy 1. Policy 2 has been given effects through the ongoing engagement process.

As an alternative to land fill vermicomposting is addressing climate action and Policy 4. While the creation of earth bunds to mitigate the potential for contaminated surface water runoff into surface water body addresses regard to Policy 6.

Groundwater flow from the area is not to the Tarawera River catchment or a tributary therefore not likely to compromise Policy 8. Proposed monitoring of both ground water and surfaces water bodies for continued health and wellbeing of freshwater ecosystems will also address Policy 13.

The established operation has already shown its dedication to ensuring ground water does not exceed drinking water standards through its consent for abstraction, nitrate treatment and discharge.

In conclusion, the effects on the freshwater environment are able to be managed to an acceptable level.

7.4 PURPOSE AND PRINCIPLES OF THE RMA – PART 2

The RMA is the overarching legislation that manages the use of natural and physical resources within New Zealand. Part 2 of the RMA contains the purposes and principles of the Act, of which an assessment is outlined below.

7.4.1 PART 6 – MATTERS OF NATIONAL IMPORTANCE

Section 6 covers matters of national importance that shall be recognised and provided for. The following relevant matters of national importance listed in Section 6 have been recognised and provided for as part of the activity:

The activity is not considered to have any impacts on the matter of national significance as listed in section 6 of the RMA. Therefore, the activity is not inconsistent with the relevant matters of the national importance in Section 6 of the RMA.

7.4.2 PART 7 – OTHER MATTERS

Section 7 covers matters that shall be given particular regard to. The following relevant other matters set out in Section 7 of the RMA have had particular regard given to them as part of the proposal:

- (a) *Kaitiakitanga*
- (b) *the efficient use and development of natural and physical resources:*
- (c) *The maintenance and enhancement of amenity values*

For the reasons outlined in the assessment of effects at section 6 above, the activity is consistent with the relevant other matters in Section 7 of the RMA.

7.4.3 PART 8 – TREATY OF WAITANGI

Section 8 states: “In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi)”. The wording “shall take into account” requires decision makers to consider the principles of the Treaty with all other matters.

The principles of the Treaty of Waitangi shall be taken into account when “.....managing the uses, development, and protection of natural and physical resources.”

For the reasons outlined in the assessment of effects at section 6 above, the activity is consistent with the relevant other matters in Section 8 of the RMA.

7.4.4 PART 5 – PURPOSE OF THE RMA

The purpose of the Resource Management Act 1991 is to “*promote the sustainable development of natural and physical resources*” whilst avoiding, remedying, and mitigating any adverse effects of activities on the environment.

The term “sustainable management” is defined in Section 5(2). This definition includes managing resources in a way that enables people and communities now, and in the future, to provide for their well-being and their health and safety, while protecting natural and physical resources and minimising adverse effects on the environment.

Having considered the matters of Part 6, 7, and 8 of the RMA, the activity is considered to be consistent with Section 5 of the Act as it involves a sustainable approach to the discharge of biosolids to land where the solids can compost providing significant benefits socially, environmentally and economically when considering the alternative of land filling.

It allows for the disposal of present (and if monitored effectively) future generations bio solid waste to land, generating beneficial byproducts of nutrient rich fertilizer while having very limited impacts on the environment.

8 CONCLUSION

Ecocast propose to continue and extend (both in volume of biosolids accepted and in area of operation) their existing vermicomposting operation at 296A Tarawera Road (aka McKee Rd), Kawerau. Ecocast seeks the following resource consents from BoPRC to authorise this activity:

- Discharge of contaminants to land in circumstances where contaminants may enter groundwater in the Tarawera Catchment under **Rule DW-R8** of the RNRP and **Rule 16.8.5(a)** of the TRCP, being a **Discretionary Activity**.
- Discharge of contaminated stormwater to land in circumstances where contaminants may enter groundwater in the Tarawera Catchment under **Rule DW-R8** of the RNRP and **Rule 16.8.4(p)** of the Tarawera River Catchment Plan, being a **Discretionary Activity**.
- Discharge of odorous gases to air from a composting operation under **Rule AIR-R15(6)** of the RNRP, being a **Discretionary Activity**.

Resource consent is also sought from WDC for the following activity:

- To operate an intensive farming activity which constitutes a discretionary activity under Rule 3.4.1.1.32 of the WDP, being a **Discretionary Activity**.

Overall, the proposed activity constitutes a **Discretionary Activity** under the relevant plans.

The assessment of effects at Section 6 of this application concludes that any potential adverse effects as a result of the project can be avoided, remedied or mitigated to an acceptable level. For the purposes of assessing public notification requirements under section 95D and identifying any affected parties under section 95E, the residual effects of the project are considered to be minor. Engagement is ongoing with potentially affected parties.

The assessment of the project against the relevant statutory framework in Section 7 of this application concludes that the activity is not contrary to any relevant provisions of applicable plans or policies. Similarly, the assessment against Part 2 of the RMA concludes that the works are consistent with the purpose and principles of the RMA.

Taking into account the existing environment, which includes the well-established and consented vermicomposting activity, and the permitted baseline, we conclude that BoPRC and WDC, respectively, can support the application and grant consent, subject to conditions.

APPENDIX A

VERMICOMPOST OPERATIONS – SITE MANAGEMENT PLAN

APPENDIX B

AIR DISCHARGES - ECOCAST - ODOUR, DUST & BIOAEROSOL ASSESSMENT AIR MATTERS REPORT 2008

APPENDIX C

SUMMARY OF DECEMBER-JANUARY 2023/4 ODOUR EPISODE

APPENDIX D

GROUNDWATER - APPLICATION FOR RM23-0129 INCLUDING APPENDICES A-G

APPENDIX E

ECOCAST LTD: GROUNDWATER MONITORING REPORT, WSP
APRIL 2024

APPENDIX F

ECOCAST VERMICOMPOSTING SITE: CONSENT RM20-0043:
SECTION 92 RMA RESPONSE, INCLUDE APPENDICES A-K

APPENDIX G

IWI APPROVALS – 2024 UPDATE

APPENDIX H

NEIGHBOUR APPROVALS – 2024 UPDATE

APPENDIX I

SITE PLAN

APPENDIX J

EXISTING RESOURCE CONSENT 65549

APPENDIX K

ALTERNATIVES

APPENDIX L

CERTIFICATE OF COMPLIANCE - KAWERAU DISTRICT COUNCIL

