

Wai-iti Beach Retreat

Monitoring Programme

Annual Report

2020-2021

Technical Report 2021-23



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Taranaki Regional Council
Private Bag 713
Stratford

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Executive summary

Wai-iti Motor Camp Ltd (the Company) operates the Wai-iti Beach Retreat (the Retreat), located on Beach Road in North Taranaki. This report for the period July 2020 to June 2021 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the Company's environmental and consent compliance performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities.

The Company holds two resource consents, which include a total of 24 conditions setting out the requirements that the Company must satisfy. The Company holds one consent to allow them to discharge treated septic tank effluent to groundwater, and one consent for a boulder rip rap toe protection in the coastal marine area.

During the monitoring period, Wai-iti Beach Retreat Ltd demonstrated an overall high level of environmental performance.

The Council's monitoring programme for the year under review included three routine inspections of the wastewater system, one inspection of the rock wall, and routine bacteriological water sampling of the Wai-iti Stream and Wai-iti Beach on one occasion.

The monitoring showed that the Retreat was well maintained during the period under review. The wastewater treatment system at the Retreat did not adversely affect the water quality of the local freshwater and coastal environments. The results of this sampling suggested that the Retreat was not influencing the water quality of the Wai-iti Stream. There were no unauthorised incident/s recording non-compliance in respect of this consent holder during the period under review.

During the year, the Company demonstrated a high level of environmental and administrative performance with the resource consents.

For reference, in the 2020-2021 year, consent holders were found to achieve a high level of environmental performance and compliance for 86% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 11% of the consents, a good level of environmental performance and compliance was achieved.

In terms of overall environmental and compliance performance by the consent holder over the last several years, this report shows that the consent holder's performance is remains at a high level in the year under review.

This report includes recommendations for the 2021-2022 year.

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1 Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2020 to June 2021 by the Taranaki Regional Council (the Council) describing the monitoring programme associated with resource consents held by Wai-iti Motor Camp Ltd (the Company). The Company operates the Wai-iti Beach Retreat (the Retreat) situated on Beach Road in North Taranaki (Photo 1).

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by the Company that relate to the discharge of sewage effluent to groundwater, and a boulder rip rap wall along the foreshore.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of the Company's use of water, land and air, and is the 32nd combined annual report by the Council for the Company.



Photo 1 Wai-iti Beach Retreat

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about:

- consent compliance monitoring under the RMA and the Council's obligations;
- the Council's approach to monitoring sites through annual programmes;
- the resource consents held by the Wai-iti Motor Camp Ltd in the Wai-iti catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted in the Company's site/catchment.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretations, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2021-2022 monitoring year.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

1.1.3 The Resource Management Act 1991 and monitoring

The RMA primarily addresses environmental 'effects' which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

- a. the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
- b. physical effects on the locality, including landscape, amenity and visual effects;
- c. ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
- d. natural and physical resources having special significance (for example recreational, cultural, or aesthetic); and
- e. risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' in as much as is appropriate for each activity. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with Section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental and administrative performance

Besides discussing the various details of the performance and extent of compliance by the Company, this report also assigns them a rating for their environmental and administrative performance during the period under review.

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. Administrative performance is concerned with the Company's approach to demonstrating consent compliance in site operations and management including the timely

provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretation, are as follows:

Environmental Performance

High: No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.

Good: Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self-reports, or during investigations of incidents reported to the Council by a third party but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
- Strong odour beyond boundary but no residential properties or other recipient nearby.

Improvement required: Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self-reports, or during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.

Poor: Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self-reports, or during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

High: The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and were addressed promptly and co-operatively.

Good: Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.

Improvement required: Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.

Poor: Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

For reference, in the 2020-2021 year, consent holders were found to achieve a high level of environmental performance and compliance for 86% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 11% of the consents, a good level of environmental performance and compliance was achieved.¹

1.2 Process description

1.2.1 Wastewater treatment system

All wastewaters from the camping ground enter a septic tank of 143 m³ capacity. The effluent is then pumped via a 50 mm alkathene pipe across the Wai-iti Stream and into soakage trenches situated on a wooded hillside approximately 30 m from the stream.

These multiple soakage trenches work on a rotational basis and were first commissioned in 1991 in response to inadequate treatment of the effluent by the previous system.

When previous proprietors took over the property in 1986-1987, the disposal system consisted of a seepage ditch situated near the base of the wooded hillside. Monitoring found that this trench system was an unsuitable means of disposal, resulting in high faecal coliform counts at the mouth of the Wai-iti Stream. This inadequate treatment led to the development of the new multiple soakage trench system.

1.2.2 Rock wall

Over the summer and autumn months of 2004, rough seas combined with high tides reached the beach toe of the coastal banks and sand dunes that front the Wai-iti Beach Retreat. Fresh erosion scarps were cut into these banks for nearly the full beach frontage, where no system of protection previously existed (Photo 2a).



Photo 2 a) Erosion on Wai-iti foreshore prior to construction of the rock wall and b) rock wall facing north from stream (Nov 2005)

In 2005 an application was received for a resource consent to provide boulder rip rap protection, over a total distance of 293 m, from the stream at the south end of Wai-iti Beach to an area of existing large boulder protection in the north. This consent was granted in July 2005. To mitigate any possible end effects, the area between the public entrance and the river was also protected using the boulder rip rap method.

¹ The Council has used these compliance grading criteria for more than 17 years. They align closely with the four compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

1.3 Resource consents

The Company holds two resource consents, the details of which are summarised in Table 1. Summaries of the conditions attached to each permit are set out in Section 3 of this report.

A summary of the various consent types issued by the Council is included Appendix I, as are copies of all permits held by the Company during the period under review.

Table 1 Resource consents held by Wai-iti Motor Camp Ltd

Consent number	Purpose	Granted	Review	Expires
<i>Water discharge permits</i>				
1971-3	To discharge up to 27 m ³ per day of septic tank treated sewage effluent via soakage trenches to groundwater in the vicinity of the Wai-iti Stream	21 Aug 1991	Jun 2015	1 Jun 2021
<i>Coastal permits</i>				
6462-1	To erect, place and maintain a boulder rip rap toe protection in the coastal marine area on the Wai-iti Beach foreshore	12 Jul 2005	Jun 2015	1 Jun 2021

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA sets obligations upon the Council to gather information, monitor and conduct research on the exercise of resource consents within the Taranaki region. The Council is also required to assess the effects arising from the exercising of these consents and report upon them.

The Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations and seek information from consent holders.

The monitoring programme for the Retreat consisted of three primary components.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- discussion over monitoring requirements;
- preparation for any consent reviews, renewals or new consent applications;
- advice on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections

Wai-iti Beach Retreat was visited three times during the monitoring period. With regard to consents for the discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and process wastewaters. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics,

including potential odour, dust, noxious or offensive emissions. The neighbourhood was surveyed for environmental effects.

In addition, the rock wall was checked for any end effects, or further erosion of the banks behind and in front of the wall.

1.4.4 Bacteriological sampling

Samples were collected at five sites during the second site inspection. Three samples were collected from the Wai-iti Stream upstream of the Retreat. Two samples were collected from coastal sites either side of the stream mouth (Table 2, Figure 1, and Photo 3). With the exception of WIT000460, these sampling sites have mostly been monitored since 1994. WIT000460, located approximately 10 m downstream of the tributary, was added to the programme during the 1999-2000 monitoring period to assess the influence of the tributary on water quality in the Wai-iti Stream.

Table 2 Locations of bacteriological sampling sites at the Wai-iti Beach Retreat

Site location	Site code	GPS coordinates (NZTM)
Wai-iti Stream upstream of the Retreat	WIT000420	1727999-5690544
Wai-iti Stream approx. 10 m d/s of tributary	WIT000460	1727896-5690572
Wai-iti Stream adjacent beach entrance	WIT000490	1727686-5690533
Sea coast approx. 75 m north of stream mouth	SEA900060	1727667-5690609
Sea coast approx. 30 m south of stream mouth	SEA900063	1727555-5690516



Figure 1 Locations of wastewater treatment system and sampling sites at the Wai-iti Beach Retreat

Samples were analysed for temperature, conductivity and the faecal indicator bacteria (FIB) enterococci or *Escherichia coli* (*E. coli*). The FIB were monitored to provide an indication of potential contamination of the water by animal and/or human excreta. Electrical conductivity, which reflects the total ionic content of water,

was measured as a supporting variable. Conductivity indirectly relates to water composition as it correlates well with total dissolved solid concentrations (Davies-Colley, 2013).

Water quality is of significant interest at this site as Wai-iti Beach receives high recreational use over the bathing season. In 2003, the Ministry for the Environment (MfE) developed the *Guidelines for Recreational Water Quality* to assess the safety of water for contact recreation. The coastal guidelines focus on enterococci as these bacteria have the ability to survive in marine water, providing the closest correlation with health effects in New Zealand coastal waters (MfE, 2003). For freshwater the MfE 2003 guidelines use *E. coli* as the preferred indicator. 'Alert' and 'Action' guideline levels are summarised in Table 3 and are based on keeping illness risk associated with recreational use to less than 2% of users.

Table 3 Summary of the Marine Recreational Bathing Guidelines (MfE, 2003)

	Indicator	Mode		
		Surveillance	Alert	Action
Marine	Enterococci (cfu/100 ml)	No single sample >140	Single sample >140	Two consecutive single samples >280
Freshwater	<i>E. coli</i> (cfu/100 ml)	No single sample >260	Single sample >260	Single sample >550



Photo 3 Wai-iti Beach, looking from site SEA900060 towards SEA900063, with the Wai-iti Stream entering from center-left

2 Results

2.1 Inspections

11 December 2020 – Inspection 1

The camp manager was present at the camp office at the time of inspection. The camp appeared to be quiet. There were no odours or visual issues noted at the pump station or soakage trenches. The flow book, recording the rates and volume of effluent pumped to the soakage trenches, was sighted.

Bacteriological monitoring was not undertaken during this site inspection.

The sea wall was not inspected on this occasion.

Overall, the camp appeared to be operating in compliance with its resource consents at the time of the inspection.

6 January 2021 – Inspection 2

The camp manager was present at the time of the inspection and reported that the camp had approximately 70 to 75 people staying. No system maintenance/upgrades or overflow events were reported to the inspecting officer. Slight odour was present at the septic tank and around the pump shed. Daily flows were checked in the notebook in the pump shed.

The sea wall was not inspected on this occasion.

Bacteriological monitoring was undertaken during this site inspection.

Overall, the camp appeared to be operating in compliance with its resource consents at the time of the inspection.

4 February 2021 – Inspection 3

The camp owner was present at the time of the inspection, and reported that there was a wedding last weekend and would be another wedding the upcoming weekend so the camp had been, and would be, full. No system maintenance/upgrades or overflow events were reported to the inspecting officer. The pump station and the flow book was sighted on this occasion.

The sea wall was inspected on this occasion, and looked to be in good condition with no scouring noted.

Bacteriological monitoring was not undertaken during this site inspection.

Overall, the camp appeared to be operating in compliance with its resource consents at the time of the inspection.

2.2 Results of bacteriological monitoring

A summary of historical bacteriological results from January 1993 to January 2020 is presented in Table 4. Median *E. coli* counts are historically higher at the freshwater sites monitored downstream of the camp, particularly at the site located 10 m downstream of the unnamed tributary. This is a reflection of the historical issues with wastewater disposal at the camp, and although *E. coli* numbers remain elevated in the stream, this is no longer attributed to the camp ground but rather sources from the wider catchment. These higher FIB counts are typically not reflected at the coastal sites, due to the high degree of mixing and dilution that occurs where the stream meets the Tasman Sea.

The results of the routine bacteriological monitoring undertaken during the 2020-2021 summer monitoring period are presented in Table 5. The FIB counts of the samples collected in January 2021 from the three

freshwater sites were all lower than historical medians. The enterococci count for the coastal site 75 m north of the stream was also found to be lower than its historical median.

The coastal site 30 m south of the stream (SEA900063) measured enterococci numbers of 90 cfu/100ml which is higher than the historical median, but still well within the limits of the Marine Recreational Bathing Guidelines (MfE, 2003; Table 3), and is not of significant concern. The electrical conductivity at this site was lower than the other coastal site, which is indicative of some freshwater influence at the site at the time of sampling.

Table 4 Summary of previous bacteriological results from 1993-2020

	Upstream WIT000420		10 m downstream tributary WIT000460		Stream at beach WIT000490		Coast 75 m N SEA900060		Coast 30 m S SEA900063	
	<i>E. coli</i> (MPN/ 100 ml)	EC (mS/m @20°C)	<i>E. coli</i> (MPN/ 100 ml)	EC (mS/m @20°C)	<i>E. coli</i> (MPN/ 100 ml)	EC (mS/m @20°C)	Ent (cfu/ 100mL)	EC (mS/m @20°C)	Ent (cfu/ 100mL)	EC (mS/m @20°C)
Number of samples	29	30	23	24	25	26	28	27	27	26
Minimum	150	15.6	230	15.2	210	15.8	<1	3,430	<1	3,790
Maximum	2,700	23.7	3,100	23.8	2,700	25.6	1,400	5,470	140	5,470
Median	690	18.3	727	18.3	720	19.3	9	4,670	5	4,690

Table 5 Bacteriological monitoring results for Wai-iti Beach Retreat during the 2020-21 monitoring period

Date	Upstream WIT000420		10 m downstream tributary WIT000460		Stream at beach WIT000490		Coast 75 m N SEA900060		Coast 30 m S SEA900063	
	<i>E. coli</i> (MPN/ 100 ml)	EC (mS/m @20°C)	<i>E. coli</i> (MPN/ 100 ml)	EC (mS/m @20°C)	<i>E. coli</i> (MPN/ 100 ml)	EC (mS/m @20°C)	Ent (cfu/ 100mL)	EC (mS/m @20°C)	Ent (cfu/ 100mL)	EC (mS/m @20°C)
6 Jan 2021	461	19.2	517	19.3	276	20.1	<10	5,220	90	4,250

2.3 Provision of consent holder data

The Council recommended in the 2016-2017 annual report that a flow meter be installed within the wastewater treatment system, in order to comply with condition 3 of consent 1971-3 (TRC, 2017). The Company provided records of average daily effluent volumes discharged to the soakage trenches between 1 July 2020 and 30 June 2021 (Appendix II). None of the average daily effluent volumes exceeded the consent limit of 27 m³ per day.

2.4 Incidents, investigations, and interventions

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the Company. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach, that in the first instance avoids issues occurring, is favoured.

For all significant compliance issues, as well as complaints from the public, the Council maintains a database record. The record includes events where the individual/organisation concerned has itself notified the Council. Details of any investigation and corrective action taken are recorded for non-compliant events.

Complaints may be alleged to be associated with a particular site. If there is potentially an issue of legal liability, the Council must be able to prove by investigation that the identified individual/organisation is indeed the source of the incident (or that the allegation cannot be proven).

In the 2020-2021 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in resource consents or provisions in Regional Plans.

3 Discussion

3.1 Discussion of site performance

No visual issues were noted during any of the three inspections, and no issues with the wastewater treatment system were reported by the camp manager over the 2020-2021 monitoring period. Slight odour was present at the septic tank and around the pump shed during the second site inspection on 6 January 2021, but was not overly unpleasant.

The pump station and soakage trenches at the Retreat were inspected three times during the 2020-2021 monitoring period. The camp manager's regular monitoring and maintenance of the wastewater treatment system appears to have prevented any issues from arising.

The pathogens that occur in human faecal matter present a significant health risk. Although the stream is not thought to be commonly bathed in, the presence of eels attracts people to the stream banks, and it is often crossed where it runs out over the beach. These considerations highlight the importance of maintaining the wastewater treatment and disposal systems at the Retreat.

The rock wall looked to be in good condition with no scouring noted.

3.2 Environmental effects of exercise of consents

The exercise of resource consent 1971-3 did not appear to have notable effects on the environment in the year under review, nor were there any significant environmental effects resulting from the exercise of resource consent 6462-1 recorded in the year under review. Inspections of the rock wall found no notable end effects, and neither the wall nor the land behind it appeared to be suffering from any obvious erosion or degradation.

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Tables 6-8.

Table 6 Summary of performance for consent 1971-3 for the monitoring year 2020-21

Purpose: To discharge up to 27 m³/day of septic tank treated sewage effluent via soakage trenches to groundwater in the vicinity of the Wai-iti Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Bacteriological sampling to be undertaken in the Wai-iti Stream and the coastal waters	Council's bacteriological sampling at five sites	Yes
2. Consent holder to ensure maintenance of septic tanks, pumps and soakage trenches is undertaken	Site inspections	Yes
3. Consent holder to provide records of daily effluent volumes discharged to the soakage trenches	Records were provided to the Council	Yes
4. Contingency plan to be provided	An updated contingency plan received June 2009	Yes

Purpose: To discharge up to 27 m³/day of septic tank treated sewage effluent via soakage trenches to groundwater in the vicinity of the Wai-iti Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
5. Optional review provision re environmental effects	Not required	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 7 Summary of performance for consent 6462-1 for the monitoring year 2020-21

Purpose: To erect, place and maintain a boulder rip rap toe protection in the coastal marine area on the Wai-iti Beach foreshore		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Notification period before construction or maintenance begins	Email confirmation from consent holder	Yes
2. Structure to be constructed and maintained in accordance with the engineering plans	Site inspections	Yes
3. Landward position of seawall is to be determined by survey to satisfaction of Council		N/A
4. Crest of structure to be no higher than reduced level plus 7.5 m	Site inspections	Yes
5. Maximum size of boulders to be used	Site inspections	Yes
6. Structure to have minimum slope of 2 to 1	Site inspections	Yes
7. No refuelling of machinery within coastal marine area		N/A
8. Construction to comply with noise standards as defined in the coastal plan		N/A
9. No work to be undertaken during weekends and holiday periods	Email confirmation from consent holder	Yes
10. No maintenance to be undertaken during weekends or the summer holiday period	Email confirmation from consent holder	Yes
11. Sufficient signage to be in place during construction	Email confirmation from consent holder	Yes

Purpose: To erect, place and maintain a boulder rip rap toe protection in the coastal marine area on the Wai-iti Beach foreshore		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
12. In situ beach materials only to be used for foreshore reinstatement purposes		N/A
13. Area and volume of disturbance to be minimised and reinstated	Site inspections	Yes
14. Works to cease if any archaeological remains are found		N/A
15. Structure to be constructed within 12 months of issuing of consent	Construction complete	Yes
16. Area behind rock wall to be planted in sand binding plants	Grasses planted	Yes
17. Annual monitoring programme to be developed for integrity of the wall	An annual inspection is incorporated with the monitoring for the wastewater treatment system at the Wai-iti Beach Retreat. Further monitoring (structure survey) may be required in future	Yes
18. Structure to be removed and reinstated if no longer required	Structure is still required	N/A
19. Optional review provision re. environmental effects	Not required	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 8 Evaluation of environmental performance over time (2010-2021)

Year	Consent no	High	Good	Improvement Req	Poor
2010-2011	1971	1	-	-	-
	6462	1	-	-	-
2011-2012	1971	1	-	-	-
	6462	1	-	-	-
2012-2013	1971	1	-	-	-
	6462	1	-	-	-
2013-2014	1971	1	-	-	-
	6462	1	-	-	-
2014-2015	1971	1	-	-	-

Year	Consent no	High	Good	Improvement Req	Poor
	6462	1	-	-	-
2015-2016	1971	-	-	1	-
	6462	1	-	-	-
2016-2017	1971	-	-	1	-
	6462	1	-	-	-
2017-2018	1971	-	1	-	-
	6462	1	-	-	-
2018-2019	1971	1	-	-	-
	6462	1	-	-	-
2019-2020	1971	1	-	-	-
	6462	1	-	-	-
2020-2021	1971	1	-	-	-
	6462	1	-	-	-
Total	-	19	1	2	0

During the year, the Company demonstrated a high level of environmental and high level of administrative performance with the resource consents as defined in Section 1.1.4. By comparison with previous years, the monitoring indicated that the Company remains at a high level of environmental performance. There were no unauthorised incidents recording non-compliance in respect of this consent holder during the period under review.

3.4 Recommendations from the 2019-2020 Annual Report

In the 2019-2020 Annual Report, it was recommended:

1. THAT in the first instance, monitoring of consented activities at the Retreat in the 2020-2021 year continues at the same level as in 2019-2020.
2. THAT should there be issues with environmental or administrative performance in 2020-2021, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

These recommendations were implemented in full.

3.5 Alterations to monitoring programmes for 2021-2022

In designing and implementing the monitoring programmes for air/water discharges in the region, the Council has taken into account:

- the extent of information already made available through monitoring or other means to date;
- its relevance under the RMA;
- the Council's obligations to monitor consented activities and their effects under the RMA;
- the record of administrative and environmental performances of the consent holder; and
- reporting to the regional community.

The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki exercising resource consents.

It is proposed that for 2021-2022 the monitoring programme for the Retreat remains unchanged on the grounds that there were no significant adverse effects on the receiving environment during the 2020-2021 monitoring period.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the sites in question. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2021-2022.

4 Recommendations

1. THAT in the first instance, monitoring of consented activities at the Retreat in the 2021-2022 year continues at the same level as in 2020-2021.
2. THAT should there be issues with environmental or administrative performance in 2021-2022, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Glossary of common terms and abbreviations

The following abbreviations and terms may be used within this report:

Action' mode	Marine: two consecutive single samples >280 enterococci/100 ml. Freshwater: single sample >550 <i>E. coli</i> /100 ml.
Alert' mode	Marine: single sample 141-280 enterococci/100 ml. Freshwater: single sample 261-550 <i>E. coli</i> /100 ml.
Bathers	Those who enter the water, and either partially or fully immerse themselves.
Bathing season	Generally the bathing season extends between 1 November and 31 March.
Beach	The shore or any access point to the sea.
BODCF	Biochemical oxygen demand of a filtered sample.
cfu	Colony forming units. A measure of the concentration of bacteria usually expressed as per 100 ml sample.
Conductivity	An indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m.
Contact recreation	Recreational activities that bring people physically in to contact with water, involving a risk of involuntary ingestion or inhalation of water.
<i>E. coli</i>	<i>Escherichia coli</i> , an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 ml of sample.
Ent	Enterococci, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 ml of sample.
FC	Faecal coliforms, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 ml of sample.
FIB	Faecal Indicator Bacteria – in this report it refers collectively to <i>E. coli</i> , enterococci and faecal coliforms.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Incident register	The incident register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish the circumstances/events surrounding an incident, including any allegations of an incident.
Median	Central value when values are arranged in order of magnitude.
MPN	Most Probable Number. A method used to estimate the concentration of viable microorganisms in a sample.

Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	<i>Resource Management Act 1991</i> including all subsequent amendments.
Temperature	Measured in °C (degrees Celsius).
Water quality	The bacteriological condition of a water body as it relates to human health, measured using indicator bacteria.

For further information on analytical methods, contact a Science Services Manager.

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Appendix I

Resource consents held by Wai-iti Motor Camp Ltd

(For a copy of the signed resource consent
please contact the TRC Consents department)

Water abstraction permits

Section 14 of the RMA stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14. Permits authorising the abstraction of water are issued by the Council under Section 87(d) of the RMA.

Water discharge permits

Section 15(1)(a) of the RMA stipulates that no person may discharge any contaminant into water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or by national regulations. Permits authorising discharges to water are issued by the Council under Section 87(e) of the RMA.

Air discharge permits

Section 15(1)(c) of the RMA stipulates that no person may discharge any contaminant from any industrial or trade premises into air, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising discharges to air are issued by the Council under Section 87(e) of the RMA.

Discharges of wastes to land

Sections 15(1)(b) and (d) of the RMA stipulate that no person may discharge any contaminant onto land if it may then enter water, or from any industrial or trade premises onto land under any circumstances, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising the discharge of wastes to land are issued by the Council under Section 87(e) of the RMA.

Land use permits

Section 13(1)(a) of the RMA stipulates that no person may in relation to the bed of any lake or river use, erect, reconstruct, place, alter, extend, remove, or demolish any structure or part of any structure in, on, under, or over the bed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Land use permits are issued by the Council under Section 87(a) of the RMA.

Coastal permits

Section 12(1)(b) of the RMA stipulates that no person may erect, reconstruct, place, alter, extend, remove, or demolish any structure that is fixed in, on, under, or over any foreshore or seabed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Coastal permits are issued by the Council under Section 87(c) of the RMA.

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Wai-iti Motor Camp Limited
 C/- 538 Carrington Road
 R D 1
 NEW PLYMOUTH

Consent Granted 28 March 2003
Date:

Conditions of Consent

Consent Granted: To discharge up to 27 cubic metres/day of septic tank
 treated sewage effluent via soakage trenches to
 groundwater in the vicinity of the Waiiti Stream at or about
 GR: Q18:379-523

Expiry Date: 1 June 2021

Review Date(s): June 2009, June 2015

Site Location: Beach Road, Waiiti

Legal Description: Pt Lot 2 DP 13368 Waiiti 54B3 54B2 Blk X Mimi SD

Catchment: Waiiti

Consent 1971-3

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall, in conjunction with the Taranaki Regional Council, undertake such bacteriological monitoring of the Waiiti Stream and coastal waters of the foreshore as deemed necessary by the Chief Executive, Taranaki Regional Council.
2. The consent holder shall ensure proper maintenance of the septic tanks, pumping station and soakage trenches as required.
3. The consent holder shall provide records of daily effluent volumes discharged to the soakage trenches at the request of the Chief Executive, Taranaki Regional Council.
4. The consent holder shall provide a contingency plan to the satisfaction of the Chief Executive, Taranaki Regional Council, outlining measures to be undertaken in the event of power failure, pump breakdown, pipe blockage and failure of soakage trenches, within three months of granting this consent.
5. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2009 and/or June 2015, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 5 December 2003

For and on behalf of
Taranaki Regional Council

Chief Executive

Coastal Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Wai-iti Motor Camp Limited
 538 Carrington Road
 R D 1
 NEW PLYMOUTH

Consent Granted 12 July 2005
Date:

Conditions of Consent

Consent Granted: To erect, place and maintain a boulder rip rap toe
 protection in the coastal marine area on the Wai-iti Beach
 foreshore at or about GR: Q18:379-523

Expiry Date: 1 June 2021

Review Date(s): June 2009, June 2015

Site Location: Beach Road, Urenui

Legal Description: Pt Lot 2 DP 13368 Blk X Mimi SD

Catchment: Tasman Sea

Consent 6462-1

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least 48 hours prior to commencement, and upon completion of initial construction, and again at least 48 hours prior to, and upon completion of, any subsequent maintenance works.
2. The structure authorised by this consent shall be constructed and subsequently maintained in accordance with the engineering plans submitted in support of application 3319 and to ensure the conditions of this consent are met. Any variation to these plans will be subject to the approval of the Chief Executive, Taranaki Regional Council. In the case of any contradiction between the documentation submitted in support of application 3319 and the conditions of this consent, the conditions of this consent shall prevail.
3. The landward position of the seawall is determined by survey to the satisfaction of the Chief Executive, Taranaki Regional Council prior to the commencement of works.
4. The crest of the structure shall not exceed a maximum height of reduced level plus 7.5 metres.
5. The maximum diameter of boulders utilised within the structure shall be no more than 0.8 metres.
6. The structure shall have a minimum seaward slope of 2 horizontal to 1 vertical.
7. There shall be no refuelling of construction machinery within the coastal marine area.

Consent 6462-1

8. The construction, use, maintenance and removal of the structure authorised by this consent shall comply with the noise standards as outlined within section 4.4.3 of the Regional Coastal Plan for Taranaki.
9. During construction of the structure no work shall be undertaken during school holidays, public holidays and weekends without the approval of the Chief Executive, Taranaki Regional Council.
10. All practicable measures shall be undertaken to ensure maintenance of the structure shall not occur on weekends, public holidays or between 1 December and 31 January.
11. During construction and maintenance periods the area subject to works shall have sufficient signage to ensure public safety of any potential safety hazards.
12. In situ beach material shall be used only for foreshore reinstatement purposes seaward of the structure, and shall not be used for construction purposes.
13. The consent holder shall ensure that the area and volume of foreshore disturbance shall, so far as practicable, be minimised and any areas which are disturbed shall, so far as practicable, be reinstated.
14. In the event that any archaeological remains are discovered as a result of the exercise of this consent, the works shall cease immediately at the affected site. The Ngati Mutunga Iwi Authority and the Chief Executive of the Taranaki Regional Council shall be notified immediately, and be invited to inspect the site.
15. The structure authorised by this consent shall be constructed within twelve months of the granting of this consent. Upon completion of construction the consent holder shall submit as built plans of the structure if different to those submitted in support of application 3319.
16. The consent holder shall undertake all practicable measures to ensure the development of healthy functioning flax, spinefex and other native sand binding plants immediately behind the rock revetment wall to the satisfaction of the Chief Executive, Taranaki Regional Council.
17. An annual monitoring programme will be developed for the integrity of the rock wall , erosion of the beach and for any end effects of the surrounding environment. All costs associated with the monitoring will be met by the consent holder.
18. The structure authorised by this consent shall be removed and the area reinstated, if and when the structure is no longer required. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least 48 hours prior to the structures removal and reinstatement.
19. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2009 and/or June 2015, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource

Consent 6462-1

consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Footnote:

- i. The structure is proposed to be constructed on New Plymouth District Council esplanade reserve. The New Plymouth District Council takes no responsibility for the maintenance of the structure or effects it might have on the beach or neighbouring properties.

Signed at Stratford on 12 July 2005

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Appendix II

Daily effluent volume data
provided by Wai-Iti Motor Camp Ltd
for 2020-2021

WAI-ITI

Sewage Volumes

01-07-20		
02-07-20		
03-07-20		
04-07-20	3303.4	2.12
05-07-20	3305.24	1.84
06-07-20	3307.69	2.45
07-07-20	3310.85	3.16
08-07-20		
09-07-20		
10-07-20	3315.88	5.03
11-07-20	3316.94	1.06
12-07-20	3320.31	3.37
13-07-20	3324.11	3.80
14-07-20	3338	13.89
15-07-20		
16-07-20		
17-07-20	3354.92	16.92
18-07-20	3357.13	2.21
19-07-20	3359.79	2.68
20-07-20	3361.36	1.57
21-07-20	3362.35	0.99
22-07-20	3365.09	2.74
23-07-20	3369.7	4.61
24-07-20	3376.64	6.94
25-07-20	3379.28	2.64
26-07-20	3380.36	1.08
27-07-20	3381.82	1.46
28-07-20	3382.31	0.49
29-07-20	3383.36	1.05
30-07-20	3383.84	0.48
31-07-20	3383.84	0.00
01-08-20	3384.83	0.99
02-08-20	3386.37	1.54
03-08-20	3387.95	1.58
04-08-20	3388.47	0.52
05-08-20	3388.98	0.51
06-08-20	3388.98	0.00
07-08-20	3388.98	0.00
08-08-20	3388.98	0.00
09-08-20	3388.98	0.00
10-08-20	3388.98	0.00
11-08-20	3388.98	0.00
12-08-20	3388.98	0.00
13-08-20	3.388.98	0.00

(4 days)

(3 days)

(3 days)

Sewage Volumes

14-08-20	3388.98	0.00
15-08-20	3388.98	0.00
16-08-20	3389.56	0.58
17-08-20	3392.18	2.62
18-08-20	3393.67	1.49
19-08-20	3394.65	0.98
20-08-20	3395.25	0.60
21-08-20	3396.78	1.53
22-08-20	3399.91	3.13
23-08-20	3401.36	1.45
24-08-20	3404.49	3.13
25-08-20	3407.35	2.86
26-08-20	3410.18	2.83
27-08-20	3411.51	1.33
28-08-20	3411.98	0.47
29-08-20	3413.22	1.24
30-08-20	3415.98	2.76
31-08-20	3417.93	1.95
01-09-20	3419.4	1.47
02-09-20	3420.36	0.96
03-09-20	3421.34	0.98
04-09-20	3422.3	0.96
05-09-20	3424.36	2.06
06-09-20	3427.37	3.01
07-09-20	3431.01	3.64
08-09-20	3432.46	1.45
09-09-20	3435.09	2.63
10-09-20	3435.09	0.00
11-09-20	3436.56	1.47
12-09-20	3438.07	1.51
13-09-20	3441.08	3.01
14-09-20	3443.66	2.58
15-09-20	3444.63	0.97
16-09-20	3446.13	1.50
17-09-20	3446.6	0.47
18-09-20	3447.56	0.96
19-09-20	3449.87	2.31
20-09-20	3452.48	2.61
21-09-20	3455.13	2.65
22-09-20	3456.12	0.99
23-09-20	3457.71	1.59
24-09-20	3458.73	1.02
25-09-20	3460.85	2.12
26-09-20	3461.87	1.02

Sewage Volumes

27-09-20	3463.81	1.94
28-09-20	3466.99	3.18
29-09-20	3468.9	1.91
30-09-20	3471.89	2.99
01-10-20	3473.64	1.75
02-10-20	3475.9	2.26
03-10-20	3479.55	3.65
04-10-20	3484.36	4.81
05-10-20	3488.35	3.99
06-10-20	3489.53	1.18
07-10-20	3492.66	3.13
08-10-20	3493.63	0.97
09-10-20	3496.12	2.49
10-10-20	3500.32	4.20
11-10-20	3506.03	5.71
12-10-20	3511.04	5.01
13-10-20	3516.09	5.05
14-10-20	3520.05	3.96
15-10-20	3521.07	1.02
16-10-20	3521.53	0.46
17-10-20	3524.08	2.55
18-10-20	3526.86	2.78
19-10-20	3531.22	4.36
20-10-20	3532.47	1.25
21-10-20	3532.72	0.25
22-10-20	3533.02	0.30
23-10-20	3543.17	1.15
24-10-20	3540.17	6.00
25-10-20	3548.08	7.91
26-10-20	3556.68	8.60
27-10-20	3561.64	4.96
28-10-20	3563.02	1.38
29-10-20	3564.67	1.65
30-10-20	3565.55	0.88
31-10-20	3568.44	2.89
01-11-20	3573.87	5.43
02-11-20	3577.22	3.35
03-11-20	3577.66	0.44
04-11-20	3579.05	1.39
05-11-20	3580	0.95
06-11-20	3581.39	1.39
07-11-20	3583.3	1.90
08-11-20	3587.05	3.75
09-11-20	3592.51	5.46

Sewage Volumes

10-11-20	3594.86	2.35
11-11-20	3597.19	2.33
12-11-20	3598.06	0.87
13-11-20	3599.39	1.33
14-11-20	3602.97	3.58
15-11-20	3609.17	6.20
16-11-20	3614.09	4.92
17-11-20	3615.49	1.40
18-11-20	3617.36	1.87
19-11-20	3618.85	1.49
20-11-20	3619.78	0.93
21-11-20	3623.17	3.39
22-11-20	3628.3	5.13
23-11-20	3632.99	4.69
24-11-20	3635.07	2.08
25-11-20	3637.41	2.34
26-11-20	3641.42	4.01
27-11-20	3645.66	4.24
28-11-20	3649.09	3.43
29-11-20	3656.14	7.05
30-11-20	3665.86	9.72
01-12-20	3671.99	6.13
02-12-20	3676.79	4.80
03-12-20	3678.39	1.60
04-12-20	3680.53	12.14
05-12-20	3685.11	4.58
06-12-20	3690.25	5.14
07-12-20	3694.49	4.24
08-12-20	3698.33	3.84
09-12-20	3702.74	4.41
10-12-20	3719.62	16.88
11-12-20	3729.67	10.05
12-12-20	3737.4	7.73
13-12-20	3743.86	6.49
14-12-20	3748.38	4.52
15-12-20	3750.43	2.05
16-12-20	3752.06	1.63
17-12-20	3754.71	2.65
18-12-20	3758.55	3.84
19-12-20	3762.9	4.35
20-12-20	3769.99	7.09
21-12-20	3775.02	5.03
22-12-20	3779.58	4.56
23-12-20	3782.51	2.93

Sewage Volumes

24-12-20	3787.62	5.11
25-12-20	3801.52	13.91
26-12-20	3810.19	8.66
27-12-20	3822.04	11.85
28-12-20	3837.04	15.00
29-12-20	3851.15	14.11
30-12-20	3865.35	14.20
31-12-20	3880.28	14.93
01-01-21	3897.88	17.60
02-01-21	3918.53	20.65
03-01-21	3939.19	20.66
04-01-21	3953.69	14.50
05-01-21	3964.81	11.12
06-01-21	3976.43	11.62
07-01-21	3988.42	11.99
08-01-21	3998.89	10.47
09-01-21	4008.27	9.38
10-01-21	4020.02	11.75
11-01-21	4028.48	8.46
12-01-21	4033.1	4.62
13-01-21	4037.41	4.31
14-01-21	4044.13	6.72
15-01-21	4049.69	5.56
16-01-21	4058.14	8.45
17-01-21	4068.51	10.37
18-01-21	4078.94	10.43
19-01-21	4082.46	3.52
20-01-21	4084.93	2.47
21-01-21	4086.79	2.06
22-01-21	4090.72	3.93
23-01-21	4096.72	6.00
24-01-21	4105.03	8.31
25-01-21	4111.91	6.88
26-01-21	4116.21	4.30
27-01-21	4119.64	3.43
28-01-21	4122.12	2.48
29-01-21	4125.09	2.97
30-01-21	4130.54	5.45
31-01-21	4140.51	9.97
01-02-21	4145.42	4.91
02-02-21	4146.97	1.55
03-02-21	4148.53	1.56
04-02-21	4149.05	0.52
05-02-21	4150.68	1.63

Sewage Volumes

06-02-21	4153.66	2.98
07-02-21	4162.1	8.44
08-02-21	4174.48	12.38
09-02-21	4182.25	7.77
10-02-21	4184.99	2.74
11-02-21	4188.22	3.23
12-02-21	4189.42	1.20
13-02-21	4193.72	4.30
14-02-21	4202.52	8.80
15-02-21	4207.33	4.81
16-02-21	4209.18	1.85
17-02-21	4211.32	2.14
18-02-21	4211.9	0.58
19-02-21	4213.92	7.98
20-02-21	4218.91	4.99
21-02-21	4218.6	9.15
22-02-21	4234.97	16.37
23-02-21	4326.08	1.11
24-02-21	4237.33	1.25
25-02-21	4257.9	0.57
26-02-21	4239.63	1.73
27-02-21	4246.12	6.49
28-02-21	4254.77	8.65
01-03-21	4259.25	4.48
02-03-21	4261.65	2.40
03-03-21	4265.62	3.97
04-03-21	4268.95	3.33
05-03-21	4270.14	1.19
06-03-21	4273.17	3.30
07-03-21	4277.47	4.30
08-03-21	4283.8	6.35
09-03-21	4289.66	5.86
10-03-21	4290.06	0.40
11-03-21	4290.79	0.73
12-03-21	4292.7	1.91
13-03-21	4297.3	4.60
14-03-21	4307.47	10.17
15-03-21	4312.86	5.39
16-03-21	4315.2	2.34
17-03-21	4315.8	0.60
18-03-21	4316.94	1.14
19-03-21	4318.06	1.12
20-03-21	4322.31	4.25
21-03-21	4329.21	6.90

Sewage Volumes

22-03-21	4333.4	4.19
23-03-21	4335.2	1.80
24-03-21	4337.61	2.41
25-03-21	4337.8	0.11
26-03-21	4389.4	1.60
27-03-21	4343.18	3.78
28-03-21	4351.32	6.00
29-03-21	4356.21	4.89
30-03-21	4358.48	2.27
31-03-21	4361.75	3.27
01-04-21	4364.09	2.34
02-04-21	4367.25	3.19
03-04-21	4375.32	8.04
04-04-21	4386.82	11.50
05-04-21	4398.96	12.14
06-04-21	4405.5	6.54
07-04-21	4407.9	2.40
08-04-21	4409.04	1.14
09-04-21	4410.18	1.14
10-04-21	4412.31	2.13
11-04-21	4421.44	9.13
12-04-21	4427.26	5.82
13-04-21	4428.97	1.71
14-04-21	4429.53	0.56
15-04-21	4431.24	1.71
16-04-21	4431.82	0.58
17-04-21	4434.67	2.85
18-04-21	4441.06	6.39
19-04-21	4443.44	2.38
20-04-21	4445.97	2.53
21-04-21	4447.11	1.14
22-04-21	4448.81	1.70
23-04-21	4454.95	6.14
24-04-21	4457.07	2.12
25-04-21	4462.17	5.10
26-04-21	4468.86	6.69
27-04-21	4474.18	5.32
28-04-21	4476.55	2.37
29-04-21	4478.99	2.44
30-04-21	4480.78	1.79
01-05-21	4482.67	3.89
02-05-21	4485.8	3.13
03-05-21	4488.19	2.39
04-05-21	4459.32	1.13

Sewage Volumes

05-05-21	4490.09	0.77
06-05-21	4491.05	0.96
07-05-21	4492.27	1.22
08-05-21	4495.4	3.13
09-05-21	4497.12	1.72
10-05-21	4500.61	3.45
11-05-21	4503.11	2.50
12-05-21	4504.23	1.12
13-05-21	4505.06	0.83
14-05-21	4506.12	1.06
15-05-21	4507.88	1.76
16-05-21	4509.07	1.19
17-05-21	4510.89	1.82
18-05-21	4512.6	1.71
19-05-21	4513.33	0.73
20-05-21	4514.97	1.64
21-05-21	4516.05	1.08
22-05-21	4516.6	0.55
23-05-21	4519.64	3.04
24-05-21	4522.94	3.30
25-05-21	4523.94	1.00
26-05-21	4524.53	0.59
27-05-21	4525.11	0.58
28-05-21	4525.41	0.30
29-05-21	4526.08	0.67
30-05-21	4530.12	4.04
31-05-21	4534.39	4.27
01-06-21	4535.12	0.73
02-06-21	4536.51	1.39
03-06-21	4537.23	0.72
04-06-21	4538.46	1.23
05-06-21	4540.4	1.94
06-06-21	4546.9	6.50
07-06-21	4549.1	2.20
08-06-21	4552.8	3.70
09-06-21	4554.1	1.30
10-06-21	4555.8	1.70
11-06-21	4556.35	0.55
12-06-21	4557.51	1.16
13-06-21	4558.2	0.69
14-06-21	4559.98	1.78
15-06-21	4562.36	2.38
16-06-21	4565.18	2.82
17-06-21	4567.12	1.94

Sewage Volumes

18-06-21	4569.1	1.98
19-06-21	4572.8	3.70
20-06-21	4574.72	2.92
21-06-21	4576.1	1.38
22-06-21	4577.27	1.17
23-06-21	4579.61	2.34
24-06-21	4580.17	0.56
25-06-21	4580.73	0.56
26-06-21	4582.4	1.67
27-06-21	4584.08	1.68
28-06-21	4588.84	4.76
29-06-21	4590.02	1.68
30-06-21	4592.2	2.18