

Lower Waiwhakaiho Catchment

Monitoring Programme

Annual Report

2022-2023

Technical Report 2023-21



Working with people | caring for Taranaki

Taranaki Regional Council
Private Bag 713
Stratford

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Executive summary

The Lower Waiwhakaiho River catchment monitoring programme addresses discharges by several consent holders in the Fitzroy area of New Plymouth.

The report covers the period July 2022 to June 2023, and is the 30th report for this combined monitoring programme.

During the monitoring period, the companies demonstrated an overall good level of environmental performance and a high level of administrative performance.

The Waiwhakaiho River catchment is significant for the Taranaki region. It is used for domestic, agricultural and industrial water supply, hydroelectric power generation, recreational purposes, and waste assimilation. It is also important to the local hapū. Because of the pressure on the river, the Taranaki Regional Council (the Council) adopted a water management plan for the river in September 1991.

During the 2022-2023 monitoring period a total of 19 consents were held by the 13 industries monitored under this programme that discharge wastewater, stormwater and/or leachate from the industrial area at Fitzroy, New Plymouth to the lower Waiwhakaiho River and Mangaone Stream, or to land in the lower Waiwhakaiho and Mangaone Stream catchments. The activities and impacts of the consent holders upon water quality are discussed, as is the extent of their compliance with their permits, and their overall environmental performance. There is a separate report covering emissions to air within the catchment.

The monitoring programme included 32 site inspections, 72 samples of discharges, groundwater and receiving waters, and two biomonitoring surveys of the Waiwhakaiho River and Mangaone Stream.

Biomonitoring surveys undertaken during the monitoring period indicated that discharges from the industrial area can contribute to deterioration in macroinvertebrate community health in a downstream direction in the lower Waiwhakaiho River, including below the Mangaone Stream confluence. The Mangaone Stream also had a significant decline in macroinvertebrate indices in the middle reaches, which may be due in part to chronic pollution from historic sites. However, results suggest that a more recent and local discharge may be contributing to the deterioration noted.

There continued to be evidence of some nutrient enrichment occurring in the lower Mangaone Stream. This was most likely to have been caused by inputs from various sites in the middle reaches. Also noted is the persistence of nutrient contamination in the groundwater surrounding the old Ravensdown site. In addition, there was the introduction of discharges from the new Ravensdown site which have in the past been found to be non-compliant in regard to ammoniacal nitrogen.

Low levels of light organic solvent preservative (LOSP) chemicals Propiconazole and Tebuconazole were detected in the Mangaone Stream downstream of Taranaki Sawmills Ltd during a wet weather survey. However, levels of these chemicals were similar to concentrations detected historically.

Monitoring of groundwater and leachate in relation to the old landfill area off Bewley Road showed pH level was outside consent limits at one monitoring bores. Other parameters tested were within consent limits at the time of sampling.

There was one unauthorised incident recorded that were associated with the consents covered by this report which resulted in further enforcement action, including one abatement notices being issued.

During the period under review, AML Ltd demonstrated a level of environmental and administrative performance and compliance that **required improvement** with their resource consent as defined in Appendix II.

During the period under review, Devon 662 Limited Partnership demonstrated a level of environmental performance that **required improvement** and a **high** level of administrative performance and compliance.

Groundwater monitoring continues to show the likelihood of fugitive historical fertiliser discharges from the former storage depot.

Dialog Fitzroy demonstrated a **high** level of environmental and administrative performance and compliance with their resource consents as defined in Appendix II.

During the period under review, Downer EDI Works Ltd was issued with a **high** rating for their environmental performance and administrative performance and compliance with their resource consents, as defined in defined in Appendix II, relation to its Rifle Range Road site.

During the period under review, Enviro NZ demonstrated a **high** level of environmental and administrative performance and compliance with their resource consent, as defined in Appendix II.

During the period under review, Firth Industries Ltd demonstrated a **high** level of environmental and administrative performance and compliance with their resource consents in relation to its site on Clemow Road. There have been ongoing issues with sediment loading in stormwater discharges, which the Company have since addressed.

During the period under review, KiwiRail Holdings Ltd/New Zealand Railways Corporation Ltd demonstrated a **high** level of environmental and administrative performance and compliance with their resource consent as defined in Appendix II.

During the period under review, New Plymouth District Council demonstrated a **good** level of environmental performance and **high** level of administrative performance and compliance with its resource consents as defined in Appendix II. Further work may be required to understand chemical fluctuations, and subsequent consent limit exceedances, in leachate discharge to groundwater and surface water in the area.

During the period under review, Ravensdown Fertiliser demonstrated a level of environmental performance that **required improvement** and a **high** level administrative performance and compliance with their resource consent as defined in Appendix II.

During the period under review, Taranaki Sawmills Ltd demonstrated a **high** level of environmental performance and a **high** administrative performance and compliance with their resource consent as defined in Appendix II. Recent works to remediate zinc on the site have successfully reduced levels in stormwater discharges.

During the period under review, Technix Group Ltd demonstrated a **good** level of environmental and a **high** level of administrative performance and compliance with their resource consent as defined in Appendix II.

During the period under review, Urban Aspect Limited demonstrated a **high** level of environmental and administrative performance and compliance with their resource consent as defined in Appendix II.

During the period under review, Waste Management NZ Ltd demonstrated a **high** level of environmental level of administrative performance and compliance with their resource consent and RFWP as defined in Appendix II.

For reference, in the 2022-2023 year, consent holders were found to achieve a high level of environmental performance and compliance for 878 (87%) of a total of 1007 consents monitored through the Taranaki tailored monitoring programmes, while for another 96 (10%) of the consents, a good level of environmental performance and compliance was achieved. A further 27 (3%) of consents monitored required improvement in their performance, while the remaining one (< 1%) achieved a rating of poor.

This report includes recommendations for the 2023-2024 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 2022 to June 2023 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by 13 industries and New Plymouth District Council (NPDC) in the Lower Waiwhakaiho catchment. The monitoring covers discharges to water and land in the Fitzroy and Katere Road industrial areas of New Plymouth.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by these industries that relate to discharges of stormwater, wastewater and leachate to the Lower Waiwhakaiho River and Mangaone Stream, and to land in the Mangaone Stream catchment.

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 companies' use of water and land, and is the 30th combined annual report by the Council for these consent holders.

A separate report covers the results of the Council's monitoring programmes associated with the air discharge permits held by some of these industries.

The Lower Waiwhakaiho River has been identified by the Council as a resource of regional significance that has demonstrated evidence of adverse impact from catchment-wide point and diffuse source pollution and other river usage. This is apparent particularly during periods of low flow accentuated by abstraction related to operation of the hydroelectric power station at Mangamahoe. The Mangaone Stream has also been identified in Appendix IA of the *Regional Fresh Water Plan for Taranaki* as a stream of high ecological value. This tributary of the Waiwhakaiho River has particularly high native fish diversity, including the presence of threatened species. It is therefore important that monitoring of the Waiwhakaiho River and Mangaone Stream is continued, particularly in relation to any major wastewater or stormwater discharges, in order that these water bodies are safeguarded as resources for the area.

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 companies in the Lower Waiwhakaiho catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted on each consent holder's site.

Sections 2 - 14 present the results of monitoring at each individual site during the period under review, including scientific and technical data, the results, their interpretations, and their significance for the environment, and presents recommendations to be implemented in the 2023-2024 monitoring year.

Section 15 presents the results of receiving water quality monitoring for the Mangaone Stream and the Waiwhakaiho River, their interpretation and their significance.

Section 16 discusses the general site performance of the consent holders within the catchment, their interpretation, and their significance for the environment in the immediate vicinity of the sites under discussion.

Section 17 presents recommendations to be implemented in the 2023-2024 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 utilization, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental performance

Besides discussing the various details of the performance and extent of compliance by the consent holders, this report also assigns a rating as to each Company's environmental and administrative performance during the period under review. The rating categories are high, good, improvement required and poor for both environmental and administrative performance. The interpretations for these ratings are found in Appendix II.

For reference, in the 2022-2023 year, consent holders were found to achieve a high level of environmental performance and compliance for 878 (87%) of a total of 1007 consents monitored through the Taranaki tailored monitoring programmes, while for another 96 (10%) of the consents, a good level of environmental performance and compliance was achieved. A further 27 (3%) of consents monitored required improvement in their performance, while the remaining one (< 1%) achieved a rating of poor.¹

¹ The Council has used these compliance grading criteria for more than 19 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

1.2 Resource consents

The locations of the consent holders monitored under this programme and the chemical sampling sites are shown in Figure 1.

A total of 19 consents were held to discharge stormwater, wastewater, and leachate from the industrial area at Fitzroy, New Plymouth to the lower Waiwhakaiho River and Mangaone Stream during the period under review (Table 1). Each of these permits was issued by the Council as a resource consent under Section 87(e) of the RMA. Details of the resource consents are summarised in the table below. Summaries of the conditions attached to each permit are set out in the 'Evaluation of performance' section for each consent holder.

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

Stormwater discharge consents have standardised special conditions that:

- Require the consent holder to adopt the best practical option to minimise effects.
- Limit the area from which stormwater can be discharged.
- Require the use of a stormwater discharge system.
- Limit constituents of the discharge, with specific regard to pH, suspended solids and oil and grease.
- Require that the discharge does not cause certain effects in the receiving waters.
- Require that the consent holder maintains a spill contingency plan to ensure that in the event of an unforeseen situation, the chances of a spillage resulting in an unauthorised discharge leaving the site are minimised.
- Require that the consent holder maintain and adhere to a management plan to ensure that the consent holder examines the activities taking place on site, and puts appropriate controls in place to minimise the potential for stormwater contamination to occur due to routine activities.
- Require the consent holder to notify the Council prior to making any changes to the site or site processes; and
- Provide for lapse (where applicable) and review of the consent.

Table 1 Resource consents for discharges to the Mangaone Stream and lower Waiwhakaiho River from New Plymouth industrial area

Consent holder	Consent No	Description	Number of conditions	Granted	Expiry date	Next review date
AML Ltd (Trading as Allied Concrete)	4539-2	To discharge stormwater and treated wastewater from truck washing at a concrete batching plant into the Mangaone Stream in the Waiwhakaiho catchment	10	30 Jul 2008	Jun 2026	-
Devon 662 Limited Partnership (Ravensdown Ltd old site)	3865-4.1	To discharge stormwater from a fertiliser storage depot onto and into land and into the Mangaone Stream and into the Waiwhakaiho River	11	06 Aug 2020	Jun 2026	June 2024
Dialog Fitzroy Ltd	0021-4	To discharge stormwater from an industrial site into the Waiwhakaiho River	10	12 Mar 2015	Jun 2032	June 2026
	9853-2	To discharge stormwater from an industrial site into the Waiwhakaiho River	10	12 Mar 2015	Jun 2032	June 2026
	9981-1	To discharge stormwater from an industrial site into the Waiwhakaiho River	8	24 Oct 2014	Jun 2032	June 2026
Downer EDI Works Ltd	3917-3	To discharge treated stormwater and minor amounts of treated air scrubber wastewater from an asphalt manufacturing plant onto land and into the Mangaone Stream	8	20 May 2015	Jun 2032	June 2026
Enviro NZ	10109-1	To discharge stormwater from an industrial site into the Puremu Stream and an unnamed tributary of the Mangaone Stream	9	06 May 2015	Jun 2032	June 2026
Firth Industries Ltd	0392-4	To discharge stormwater and treated wastewater into the Waiwhakaiho River	10	21 July 2015	Jun 2032	June 2026
KiwiRail Holdings Ltd	3528-3	To discharge stormwater into the Waiwhakaiho River	8	31 Mar 2017	Jun 2026	-
New Zealand Railways Corporation	1735-3	To discharge stormwater from the Smart Road Rail Terminal into an unnamed tributary of the Mangaone Stream, and into the Mangaone Stream in the Waiwhakaiho catchment	9	31 Jul 2009	Jun 2026	-
New Plymouth District Council	1275-3	To discharge stormwater from the Katere and Waiwhakaiho industrial areas into the Mangaone Stream via multiple outfalls between Egmont Road and the	4	10 Jun 2008	Jun 2026	-

Consent holder	Consent No	Description	Number of conditions	Granted	Expiry date	Next review date
		confluence with the Waiwhakaiho River...also 1697032E-5677145N, 1696882E-5677087N, 1696734E-5676990N, 1696545E-5677175N, 1696755E-5677622N, 1696757E-5677671N, 1696771E-5677957N, and 1696777E-5677965N				
	4984-2	To discharge leachate from a former landfill site into groundwater, adjacent to the Waiwhakaiho River	4	16 March 2016	Jun 2032	June 2026
	5163-2	To discharge stormwater from the Waiwhakaiho industrial area into the Waiwhakaiho River via multiple outfalls between the State Highway 3 bridge and the confluence with the Mangaone Stream.	4	10 Jun 2008	Jun 2026	-
Ravensdown Ltd	10513-1.1	To discharge stormwater from a fertiliser storage site onto and into land and into the Mangaone Stream	9	06 Aug 2020	Jun 2032	June 2026
Taranaki Sawmills Ltd	3491-3.0	To discharge stormwater from a timber treatment site into the Mangaone Stream	11	12 March 2021	June 2038	June 2026
Technix Group Ltd	0291-3	To discharge stormwater from an industrial site into the Waiwhakaiho River	9	24 Oct 2014	Jun 2032	June 2026
	9982-1	To discharge stormwater from an industrial site into the Mangaone Stream	8	24 Oct 2014	Jun 2032	June 2026
Urban Aspect Limited	10008-1	To discharge stormwater onto and into land and into the Mangaone Stream	9	05 Jun 2015	Jun 2032	June 2026
Waste Management NZ Ltd	10430-1	To discharge stormwater from a waste depot into an unnamed tributary of the Mangaone Stream	9	27 Oct 2017	Jun 2032	June 2023

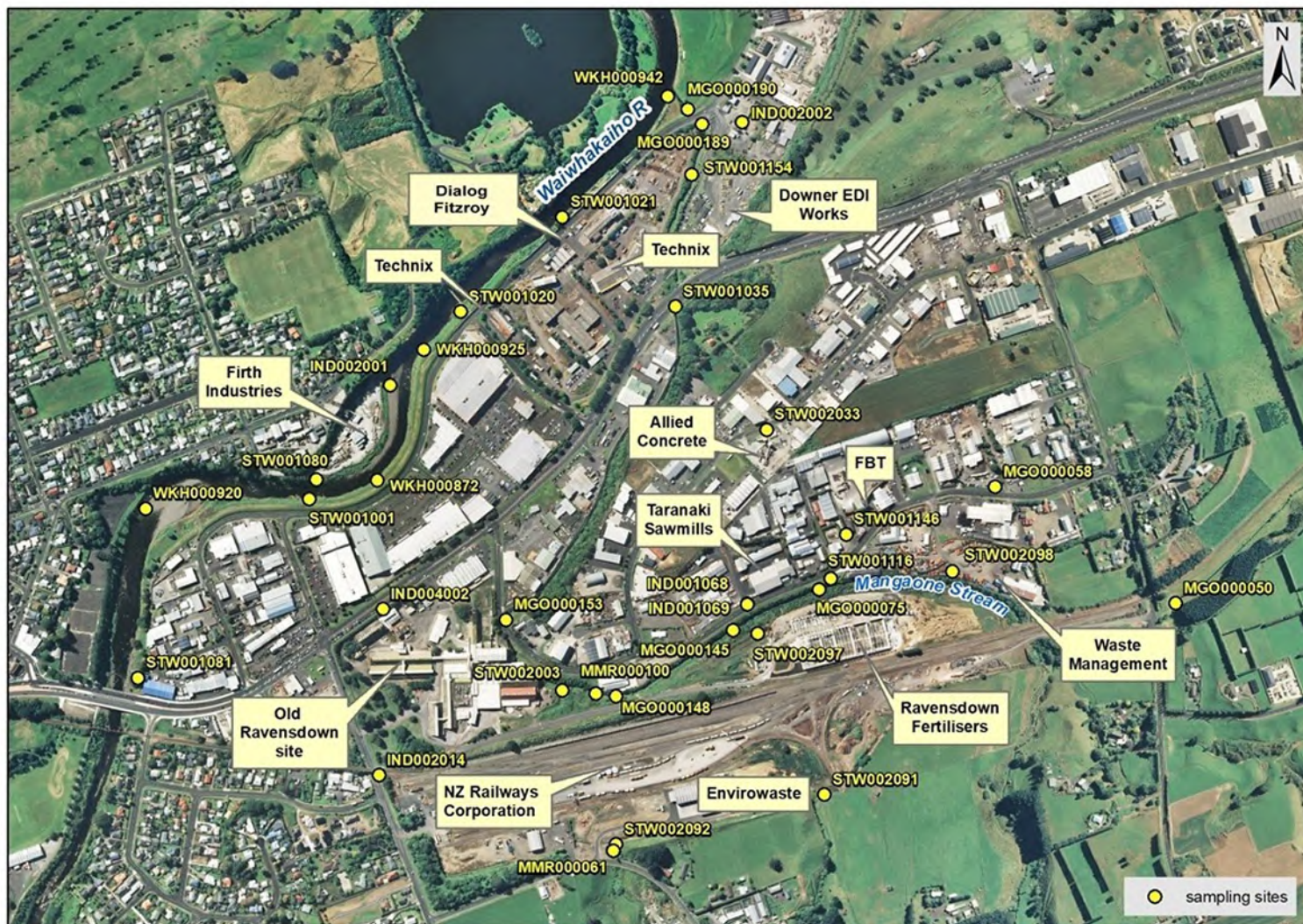


Figure 1 Lower Waiwhakaiho industrial catchment and sampling sites

1.3 Monitoring programme

1.3.1 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 industries in the Lower Waiwhakaiho catchment consisted of four primary components.

1.3.2 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.

1.3.3 Site inspections

Council undertook 32 inspections during the monitoring period. Inspections focused on general housekeeping, effects on stormwater quality and wastewater disposal. Water and waste treatment systems and areas where chemicals or products are stored or transferred are given particular attention. Sources of data being collected by the consent holder were identified and assessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The neighbourhood was also surveyed for environmental effects.

The frequency of inspection varied depending on the type of activity at the site, the outcome of previous inspections, and the stage of any investigation of unsourced discharges of contaminants.

1.3.4 Chemical sampling

The Council undertook sampling of both the discharges from the site and the water quality upstream and downstream of the discharge point and mixing zone in the receiving waters.

The number and location of sites sampled, the frequency and conditions of sampling, and the range of water quality parameters determined have changed since this combined monitoring programme commenced in 1988. This evolution has occurred as knowledge of the characteristics of the discharges and waters that receive them has been gained, and as the number and composition of licensed discharges has varied.

Not all parameter results from sampling are published herein, only those relevant to assessing compliance and effects. All results are available upon request.

1.3.4.1 Surface water surveys

The discharge and receiving water chemical sampling sites are shown in Figure 1. As there are no samples taken downstream of the confluence of the Mangaone Stream and Waiwhakaiho River, the surface water surveys of these two water bodies and their discharges may be carried out separately.

Wet weather sampling was carried out on 4 May 2023 for the Mangaone Stream and 19 May 2023 for the Waiwhakaiho River. Samples were also collected from both the Waiwhakaiho River and Mangaone Stream in conjunction with groundwater monitoring, and from the Mangamiro Stream in relation to KiwiRail discharges.

1.3.4.2 Discharge sampling

Taken in conjunction with wet weather inspections and wet weather river surveys, 38 samples of individual site discharges were collected and analysed. The results of the discharge monitoring are discussed in the relevant section based on the consent holder responsible for that discharge, and the receiving water results are discussed in Section 15.

1.3.4.3 Groundwater surveys

Groundwater sampling was undertaken in the vicinity of the old Bewley Road landfill and Devon 662, with total of 10 groundwater samples being collected for analysis. Groundwater sampling is conducted independently of the wet weather surface water sampling. A discharge drain and three receiving water sites are sampled in conjunction with the Bewley Road groundwater monitoring, and two receiving water sites are sampled in conjunction with the Devon 662 groundwater monitoring. The location of the sites sampled during the groundwater surveys are shown in Figure 2.

Where possible, a summary of previous monitoring data for a particular site is provided for comparative purposes. Unless specifically stated all metals results are from acid soluble analysis.

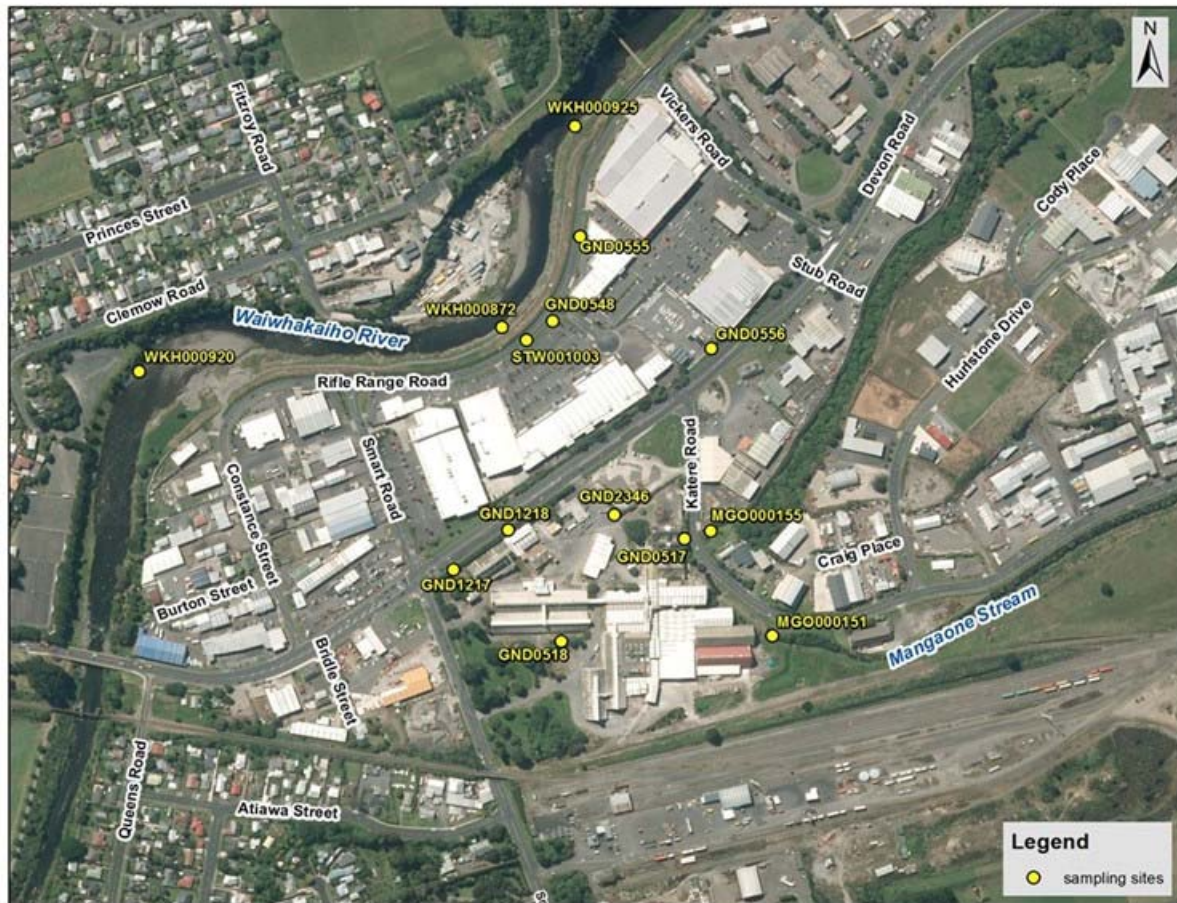


Figure 2 Groundwater monitoring bore locations and associated surface water sampling sites

1.3.4.4 Streambed sediment sampling

Dry weather sampling of the Mangaone Stream sediments did not occur this monitoring period. Sediment sampling is carried out triennially and will next be undertaken in the 2024-2025 monitoring year.

1.3.5 Biomonitoring surveys

Biological surveys are used to determine the impacts that discharges may cause over a period of time. This is distinct from chemical surveys, which only give detailed information on the constituents of a discharge at the time of sampling and not previous discharge characteristics. Biological surveys also directly indicate any significant adverse effects of discharges upon in-stream flora and fauna, so that cause-effect relationships do not have to be established as for critical levels of individual chemical parameters. Although, variation in habitat must also be taken into consideration.

1.3.5.1 Macroinvertebrate surveys

Samples of streambed macroinvertebrates and algae are collected from three sampling sites in the Lower Waiwhakaiho River and five sites in the Mangaone Stream on a biannual basis. During the 2022-2023 period, these surveys were conducted on 8 December 2022 and 9 March 2023. The locations of the biomonitoring sites are shown in Figure 17. A summary of the findings is discussed in section 15.2.

1.3.5.2 Fish survey

Fish surveys were originally undertaken at two sites in the Mangaone Stream. In the 2004-2005 fish survey report, it was proposed that future surveys incorporate more sites in an attempt to compare sites with

similar habitats. This was to ensure that discharges to the Mangaone Stream are not presenting a barrier to upstream migration. The last fish survey was conducted during the 2020-2021 monitoring year. As fish surveys are scheduled on a triennial basis, surveys will next be undertaken during the 2023-2024 monitoring year.

2 AML Ltd (trading as Allied Concrete)

2.1 Site description

AML Ltd (Allied Concrete) operate a concrete batching plant at 67 Hurlstone Drive (Figure 3), which is one of three such plants the Company operates in the Taranaki region. The main activities are loading of ready-mixed concrete into trucks, and the unloading of concrete raw materials including cement and aggregate into silos and bins.

Stormwater from the majority of the site drains directly to the New Plymouth District Council (NPDC) stormwater system and then to the Mangaone Stream.



Figure 3 Aerial view of Allied Concrete site location with associated sampling point

The wastewater treatment system consists of a series of settlement ponds and pumps for the recycling of process water. The emptied mixing bowls of up to seven concrete trucks are washed out each day using water and a small amount of detergent. This bowl wash water is discharged into two 36 m³ bins and allowed to settle for at least 18 hours before treatment through an additional series of six settlement ponds totalling approximately 360 m³ in volume. Solids from the settlement process are removed from the bins and ponds as required.

Water from the settlement ponds is recycled into the concrete manufacturing process and is also used for bowl washing. The recycled water is supplemented on most days by reticulated supply and no discharge of wastewater occurs to the stormwater drain. However, because the uncovered settlement ponds receive stormwater both directly and as run off from certain areas of the site, an excess of water may enter the system during heavy or sustained rainfall, or if rainfall occurs when the plant is not operating. This excess is discharged via a sand filter prior to entering the NPDC stormwater system, which discharges to the Mangaone Stream immediately upstream of State Highway 3.

Allied Concrete holds water discharge permit 4539-2 to cover the discharge of stormwater and treated wastewater from truck washing at a concrete batching plant into the Mangaone Stream in the Waiwhakaiho

catchment. It contains the standardised special conditions as set out in section 1.2. The permit is attached to this report in Appendix I.

2.2 Results

2.2.1 Inspections

Four routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted on 11 November 2022, 27 February, 19 April, and 28 June 2023.

The inspection carried out on 11 November 2022 found that the site was visually clean and tidy, with the water being collected in settling ponds or drains. A stormwater discharge sample was taken, and the result was non-compliant with the consent conditions as the total suspended solids concentration in the discharge stormwater was measured at 450 g/m³ (consent limit at 100 g/m³). Abatement Notice EAC-24887 was issued requiring works to be undertaken to ensure compliance with resource consent conditions.

A follow up inspection was carried out on 27 February 2023. Allied Concrete undertook monthly maintenance on sand filters, to limit the input of suspended solids in the stormwater. Self-monitoring of water quality is in place to ensure that the cleaning frequency of the sand filters is adequate. A cattle stop and wedge pit were installed to improve the runoff from one of the vehicle entry/exit point. There was no stormwater discharge at the time of the inspection. The site was found to be compliant with resource consent conditions and the abatement notice at the time of inspection.

On 19 April 2023, the inspection was carried out under wet weather. The site appeared tidy and well maintained. The sand traps and series of filtration ponds in place to limit the concentration of suspended solids in the stormwater discharge appeared to be working efficiently as the discharge sample taken was compliant with the consent limits.

On 28 June 2023, the inspection was conducted after the site was found non-compliant due to high suspended solids in the stormwater discharge that was sampled during the annual Lower Waiwhakaiho wet weather run, on 4 May 2023. This was in contravention of resource consent conditions and Abatement Notice EAC-24887 which requires continued compliance. It was found that a better bund was built in the entry way, the cattle stop and wedge pits cleaning frequency was increased, and the sand filters are routinely monitored. The site appeared clean and tidy, with no obstruction in the stormwater drainage system. The site was found to be compliant with resource consent conditions and the abatement notice at the time of the inspection.

2.2.2 Results of discharge monitoring

Since 1996, the discharge from the concrete plant has been monitored at a manhole outside the plant, before it enters the stormwater drain along Hurlstone Drive. It is also monitored at a second point, together with contributions from the surrounding industrial area, at the point where the combined NPDC reticulated stormwater drain discharges into the Mangaone Stream (site STW001035).

Discharges from the site were sampled on three occasions during the monitoring period under review and results are displayed in Table 2. Samples were collected during two routine compliance inspections and during a catchment sampling run in wet weather conditions. Suspended solids were significantly above the consent limit of 100 g/m³ in November 2022 and May 2023.

Results showed pH was high in samples of the discharge on all sampling occasions. However, the pH limit of 6.0 – 8.0 applies to the receiving waters after allowing a reasonable mixing distance. Therefore, pH compliance cannot be assessed on the discharge sample taken. The results for the stormwater drain at the

Mangaone Stream (site STW001035) are given in section 9.2.2.5, whilst the results of the receiving water (i.e. for the purposes of monitoring compliance with consent conditions) are given in section 15.1.2.

Table 2 Allied Concrete stormwater sampling results, site STW002033

Parameters	Units	11 Nov 2022	20 April 2023	4 May 2023	Consent limits
pH	pH	9.2*	8.9*	10.9*	6.0 – 8.0*
Temperature	°C	20.0	18.6	17.5	-
Conductivity	mS/s	29.4	32.0	24.3	-
Suspended solids	g/m ³	450	56	530	100
Total hydrocarbons	g/m ³	< 0.7	< 0.7	pass	15
Turbidity	FNU	600	52	640	-

*pH consent limits apply to the receiving waters of the Mangaone Stream

2.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents in association with Allied Concrete's conditions in resource consents or provisions in Regional Plans.

2.4 Evaluation of performance

A tabular summary of Allied Concrete's compliance record for the year under review is set out in Table 3.

Table 3 Summary of performance for Allied Concrete consent 4539-2

Purpose: To discharge stormwater and treated wastewater from truck washing at a concrete batching plant into the Mangaone Stream in the Waiwhakaiho catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to minimise effects	Observation and discussion at inspections	No Levels of suspended solids continue to be high at STW002033
2. Limit on stormwater catchment area	Observation and discussion at inspections	Yes
3. Bunding of above ground hazardous substance storage	Observation at inspections	Yes
4. Concentration limits upon potential contaminants in discharge	Chemical sampling	No Suspended sediment above consent limits
5. Discharge cannot cause specified general adverse effects beyond mixing zone	Sampling and discharge point inspections	Yes
6. pH limits on receiving water as a result of discharge	Chemical sampling	Yes
7. Maintenance of and adherence to contingency plan	Site inspections	Yes
8. Prepare, maintain and adhere to an operation and management plan	Site inspections	No As per conditions 1 and 4 above
9. Written notification of changes	Observation and discussion at inspection found no changes requiring notification	N/A
10. Optional review provision re environmental effects	No further provision for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Improvement required
Overall assessment of administrative performance in respect of this consent		Improvement required

N/A = not applicable

During the year, Allied Concrete demonstrated a level of environmental and administrative performance that required improvement as defined in Appendix II. During the review period, compliance inspections and water quality analysis found consent conditions were breached on two separate occasions for high levels of suspended solids in the stormwater discharge. Allied Concrete needs to investigate and mitigate the source of suspended solids in stormwater discharges from their site, to ensure compliance with Abatement Notice EAC-24887.

3 Devon 662 Ltd Partnership

3.1 Site description

Previously operating as the New Plymouth depot of Ravensdown Fertiliser Co-operative Ltd (Ravensdown), the Devon 662 Partnership (Devon 662) site occupies an area of approximately 7 ha bounded by Devon, Smart and Katere Roads, and the Smart Road rail yard (Figure 4). It is also bordered on the eastern boundary by the Mangaone Stream.

While operating as Ravensdown, the depot previously received, bagged, blended and distributed fertilisers in various forms, namely superphosphate, lime, dolomite and imported high analysis products such as ammonium sulphate, urea, triple super, potassium chloride (potash) and monoammonium and diammonium phosphates (MAP & DAP). Small volumes of trace element fertilisers such as zinc sulphate were also handled through the store. Approximately 250,000 tonnes of fertiliser were distributed per annum.



Figure 4 Aerial view of Devon 662 site with associated sampling points

Prior to 1 July 1997, Farmers Fertiliser Ltd manufactured super phosphate on the site by acidulation of phosphate rock. Sulphuric acid was manufactured from elemental sulphur. A chrome sulphate plant was run in conjunction with the sulphuric acid plant. Hydrofluorosilicic acid was produced as a by-product of the rock acidulation process. The manufacturing plants were all decommissioned and subsequently removed from site, with the acid plant being the last plant to be removed, which was completed during the 2002-2003 year. After decommissioning, the acid tank was retained for storage of liquid wastes containing high levels of fertiliser.

Stormwater from the site discharges to both the Waiwhakaiho River and the Mangaone Stream.

Drainage from western and northern parts of the site flows to the Waiwhakaiho River, via an underground drain that runs alongside Devon Road to the Smart Road intersection, where it meets a piped tributary of the river. The piped tributary, known as McLeod's Drain, originates in the Queens Road area and runs for approximately 600 m beneath lower Smart Road from the railway. The drain then joins the river 50 m

downstream of Smart Road. The mean flow of the tributary is approximately 10 L/s. All of the former manufacturing plants on the Devon 662 site were in this catchment.

Drainage from southern and eastern parts of the site flows to the Mangaone Stream at several points. The catchment area of about 2.8 ha includes the (road and rail) transfer area for fertilisers. Part of the fertiliser transfer area is on land owned by KiwiRail. The main discharge from this catchment is via a short drain that meets the Mangaone Stream about 150 m above the Katere Road Bridge. The Mangamiro Stream, which is a small piped tributary of the Mangaone Stream, exits immediately upstream of the stormwater drain. The other discharge points to the stream are mainly roof drain outlets. Ravensdown ceased operations and vacated the site in November 2018, following the purchase by Devon 662.

Devon 662 holds resource consent **3865-4** to discharge stormwater from a fertiliser storage depot onto and into land and into the Mangaone Stream and into the Waiwhakaiho River. This consent combined the activities of the two prior consents **3140-2** and **3865-3**. It contains the standardised conditions as well as two extra conditions requiring the maintenance of groundwater bores and foot access to water sampling sites.

3.2 Results

3.2.1 Inspections

One routine compliance monitoring inspection was conducted on 29 June 2023 at the site during the monitoring period to assess compliance with resource consent conditions.

The inspection was carried out after a moderate rainfall event overnight. There was a clear small discharge from the wetland to the Mangaone Stream at the time of the inspection, and no adverse effects were noted downstream of the discharge. There was no operations observed onsite at the time of the inspection.

3.2.2 Results of discharge monitoring

Stormwater discharge samples were collected from one location on the Devon 662 site, where stormwater discharges to the Mangaone Stream, on 20 April and 4 May 2023.

The main discharge to the Mangaone Stream, made up of stormwater and/or groundwater seepage, is sampled from a small wetland area in the south-eastern corner of the site (site code STW002003, Figure 4). The results of monitoring for the period under review are presented in Table 4. All results were within consented limits. Monitoring for metals was not conducted at this site during the review period.

Overall, the nutrient concentrations were lower than the concentrations measured in the last two monitoring years. The NH_3 , NH_4 , NNN and DRP concentrations were the lowest historically measured at this site. This decreasing trend is not observable in total phosphorus but the concentration measured in the 2022-2023 monitoring year is still in the lower part of the historic range.

Table 4 Devon 662 wetland stormwater sampling results, site STW002003

Parameters	Units	20 April 2023	04 May 2023	Consent limits
pH	pH	7.2	7.2	6.0 – 9.0
Temperature	°C	17.9	17.5	-
Conductivity	mS/m	87.8	23.3	-
Suspended Solids	g/m ³	85	30	100
Turbidity	FNU/NTU	108	14.7	-
BOD	g O ₂ /m ³	-	-	-

Nutrients				
NH ₃	g/m ³	0.0021	0.00104	0.025*
NH ₄	g/m ³	0.35	0.196	-
NNN	g/m ³	1.76	0.77	-
Total Phosphorus	g/m ³	3.1	1.42	-
DRP	g/m ³	0.12	0.78	30

3.2.3 Results of groundwater monitoring

Since the 2002-2003 period, a full survey of the groundwater in the immediate vicinity of the site has been undertaken at two of the five bores on two occasions during each monitoring year, along with associated receiving water monitoring (two surface water sites). Bores GND0518, GND1217, and GND1218 are no longer available for sampling. The first round of sampling was carried out during the summer period, on 3 March 2023, while the second was conducted on 26 June 2023 during the autumn period. The locations of the monitoring bores are shown in Figure 4. The results of the sampling are given in Table 5, and compared to the maximum acceptable value (MAV) of the NZ Drinking Water standards 2022 (DWSNZ).

Overall, the results from the surveys were within the historical ranges and below the DWSNZ MAVs, except for sulphate levels at GND0517 that exceeded the DWSNZ MAV and was the highest measured on records. However, GND0517 bore is not used for potable supply. Concentrations of unionised ammonia were within the historical range but showed an overall increase, especially at GND2346. Concentration of ammoniacal nitrogen were within historical range at both bores, but showed an increase compared to last monitoring year at GND0517.

Results of instream sampling for the Mangaone Stream at two sites (MGO000151 and MGO000155) are also shown in Table 5. These sites are adjacent to the eastern and south eastern boundary of the site (Figure 4). Both sites continued to show slightly elevated levels of ammoniacal nitrogen and unionised ammonia, although results were still within historical averages. These results show that groundwater from the site continues to influence the stream, however, all results met the guideline values of the DWSNZ. There were no significant effects noted in the Waiwhakaiho River or Mangaone Stream during wet weather surveys, as noted in section 15.1.

Table 5 Devon 662 groundwater sampling results, 3 March 2023 and 26 June 2023

Parameters	Units	GND0517		GND2346		MGO000151		MGO000155		DWSNZ MAV
Sampling date	-	Mar 23	Jun 23	Mar 23	Jun 23	Mar 23	Jun 23	Mar 23	Jun 23	
Level	mbsl	4.38	4.26	2.18	2.11	-	-	-	-	-
pH	pH	7.4	7.2	8.2	8.1	7.6	7.3	7.6	7.2	7.0 – 8.5
Temperature	°C	17.8	17.0	18.0	16.7	17.4	12.6	17.3	12.5	-
Conductivity	mS/m	497	452	39.4	40.8	21.7	19.5	22.7	19.9	-
DO	mg/L	0.4	0.13	0.1	0.05	9.82	12.81	10.37	10.49	-
	%	4.5	1.4	1.1	0.6	104.2	127.5	108.2	98.9	-
Fluoride	g/m ³	0.19	-	0.15	-	-	-	-	-	1.5
Sulphate	g/m ³	870	850	< 0.5	< 0.5	-	-	-	-	250
Nutrients										
NH ₃	g/m ³	1.07	0.41	0.062	0.046	0.0014	0.00072	0.0029	0.00093	-
NH ₄	g/m ³	94	72	0.91	0.83	0.079	0.135	0.171	0.20	-
Total Phosphorus	g/m ³	0.048	0.068	0.198	0.194	0.009	0.023	0.009	0.024	-
DRP	g/m ³	0.037	0.030	0.174	0.176	< 0.004	< 0.004	< 0.004	< 0.004	-
Metals (acid soluble)										
Cadmium	g/m ³	< 0.0010	-	< 0.0010	-	-	-	-	-	0.004
Chromium	g/m ³	< 0.010	-	< 0.010	-	-	-	-	-	0.05
Lead	g/m ³	< 0.002	-	< 0.002	-	-	-	-	-	0.01
Nickel	g/m ³	< 0.010	-	< 0.010	-	-	-	-	-	0.08
Zinc	g/m ³	< 0.02	-	< 0.02	-	-	-	-	-	-

Parameters	Units	GND0517		GND2346		MGO000151		MGO000155		DWSNZ MAV
Metals (other)										
Copper (total)	g/m³	< 0.010	-	< 0.010	-	-	-	-	-	2
Vanadium (d)	g/m³	0.0019	-	< 0.0010	-	-	-	-	-	-

3.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with Devon 662's conditions in resource consents or provisions in Regional Plans.

3.4 Evaluation of performance

A tabular summary of Devon 662's compliance record for the year under review is set out in Table 6.

Table 6 Summary of performance for Devon 662 Ltd Partnership consent 3865-4

Purpose: To discharge stormwater from a fertiliser storage depot onto and into land and into the Mangaone Stream and into the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Inspections	Yes
2. Limit on catchment area	Inspections	Yes
3. Limits on discharge contaminant concentrations	Discharge sampling	Yes
4. Limit on effects in receiving water	Inspections and sampling	No Leaching of fertiliser residue into groundwater
5. Provide contingency plan	N/A	N/A
6. Provide management plan	N/A	N/A
7. Maintenance of groundwater bores	Inspections and sampling	Yes
8. Maintenance of site access	Inspections and sampling	No No access to 3/5 bores
9. Notification of changes	Inspection	Yes
10. Review condition	Next option for review in June 2023	No
Overall assessment of consent compliance and environmental performance in respect of this consent		Improvement required High
Overall assessment of administrative performance in respect of this consent		

N/A = not applicable

During the period under review, Devon 662 Limited Partnership demonstrated a level of environmental performance that required improvement and high level of administrative performance and compliance with their resource consent and RFWP as defined in Appendix II. The monitoring indicates that the site is still leaching fertiliser residue into groundwater and that there may be some effects noted on macroinvertebrate communities in the Mangaone Stream. These results are partially-attributed to ongoing site remediation works, which are expected to be transient in nature and followed by longer-term improvements to environmental conditions. Three of the five monitoring bores were not able to be accessed for sampling (as required by consent conditions). These might need to be reinstated.

4 Dialog Fitzroy

4.1 Site description

Dialog Fitzroy Ltd (Dialog) (previously Fitzroy Engineering Group Ltd) operates an engineering business which involves the manufacturing of heavy engineering components and structures. Activities at the site also include abrasive blasting and painting.

The site was previously leased from Technix Group Ltd (Technix), and the stormwater discharges from Dialog's activities were covered under consents held by Technix. In 2013, Dialog purchased the part of the property they operate on from Technix (Figure 5) and resource consent 0021-3 was transferred to Dialog. Resource consent 0291-3 was split into two consents as the northern area covered by this consent was now owned by Dialog, and a new consent number (9853-2) was assigned to this catchment area.

At the start of the monitoring year, Dialog held two consents to discharge stormwater, **0021-4**, and **9853-2**. In October 2022, Technix transferred one consent to discharge to stormwater **9981-1**, and another one (**9982-1**) in June 2023. The latest consent will be reported in the Technix section as it was the consent holder for the majority of the year. These contain the standardised conditions given in Section 1.2. Consents 0021-4 and 9853-2 prohibit the discharge of contaminants from hydrotesting and require the notification of any outdoor hydrotesting being undertaken. The permits are attached to this report in Appendix I.



Figure 5 Aerial view of Technix Group Ltd and Dialog Fitzroy Ltd subdivided site with the associated sampling points.

Note: The site in yellow represents the land covered by consents 0021-4 and 9853-2. The sites in blue and red represent the consents 9981-1 and 9982-1 transferred from Technix to Dialog Fitzroy in October 2022 and June 2023, respectively.

The stormwater area for consent **0021-4** covers the south-west section of Dialog Fitzroy's property. The stormwater drainage system runs from the south and east boundary towards the east boundary, the

drainage then runs north towards the Waiwhakaiho River and discharges into the river via a stormwater drain (STW002001). There are multiple sumps along this system to collect stormwater.

The drainage system for the discharge covered by consent 9853-2 begins in the adjacent Technix property, continues north through Dialog's section, and discharges into the Waiwhakaiho River via a stormwater drain (STW001021). The system has a sump on the southern boundary and another attached to the blast and paint shop. A dangerous goods storage shed is also in this catchment area.

Dialog undertakes infrequent hydrotesting processes on large fabrications, and also operations involving the passivating of stainless steel. These activities produce wastewater that may contain contaminants such as penetrant dye and rust inhibitor, and also can be acidic. These activities sometimes occur outside. As per their operating procedures, the wastewater from these processes is banded using tarpaulin sheets, and any drains are blocked with sandbags. Once that activity is completed the waste is removed by a waste management specialist. Dialog continue to provide and maintain a stormwater management plan and spill contingency plan.

4.2 Results

4.2.1 Inspections

Two routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted 13 April and 29 June 2023.

The site appeared clean and tidy at during the two inspections. The stormwater drains appeared free from obstruction and were equipped with drain socks. When the site was discharging, the stormwater was clear and did not look like it was causing an adverse effect to the receiving environment. During the June 2023 inspection, maintenance work was being undertaken at the unsealed upper area of the site, to avoid the input of suspended solids in the discharge. The site was compliant at the time of the two inspections.

4.2.2 Results of discharge monitoring

There are two routine sampling points for monitoring of stormwater discharges from the Dialog Fitzroy site to the Waiwhakaiho River. These sampling points are opposite Dialog Fitzroy's plate shop (consent 0021-4, site STW001021), and opposite Dialog Fitzroy's blast and paint shop (consent 9853-2, site STW002001). The blast and paint shop discharge point also contains stormwater from the area covered by the Technix consent 0291-3. Both discharge points were sampled once during the monitoring year on a different occasion. The results of sampling from these locations are presented in Table 7. All results were within consented limits and historical means.

Table 7 Dialog Fitzroy stormwater sampling results

Parameters	Units	STW001021 11 April 2023	STW002001 19 May 2023	Consent limits
Temperature	°C	17.8	14.8	-
pH	pH	7.1	7.2	6.0 – 9.0
Conductivity	mS/m	7.2	5.3	-
Suspended solids	g/m ³	31	31	100
Turbidity	FNU	32	30	-
Total hydrocarbons	g/m ³	< 0.7	< 0.7	15*

*Hydrocarbons measured in place of oil & grease

4.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with Dialog's conditions in resource consents or provisions in Regional Plans.

4.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 8, Table 9 and Table 10.

Table 8 Summary of performance for Dialog Fitzroy consent 0021-4

Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practicable option to prevent or minimise adverse effects	Inspections, liaison with consent holder	Yes
2. Catchment not to exceed 3.3 ha	Inspections	Yes
3. No discharge of contaminants from hydrotesting activities	Inspections	Yes
4. Notification of outdoor hydrotesting	Notification received	Yes
5. Limits on contaminants in discharge	Sampling	Yes
6. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection, sampling and biomonitoring	Yes
7. Maintain a spill contingency plan	Review of documentation received. Latest version received June 2023	Yes
8. Maintain and update and adhere to Stormwater Management Plan	Review of documentation received. Latest version received June 2023	Yes
9. Notification prior to significant changes to processes or operations	Inspections and liaison with consent holder – no significant changes during period	N/A
10. Provision for review of consent	Next option for review in June 2026	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 9 Summary of performance for Dialog Fitzroy consent 9853-2

Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practicable option to prevent or minimise adverse effects	Inspections, liaison with consent holder	Yes
2. Catchment not to exceed 3.3 ha	Inspections	Yes
3. No discharge of contaminants from hydrotesting activities	Inspections, review of sample results	Yes
4. Notification of hydrotesting	Notification received	Yes
5. Limits on pH, suspended solids, oil and grease and chloride in discharge	Sampling	Yes
6. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling and biomonitoring	Yes
7. Maintain and update a Contingency Plan	Review of documentation received. Latest version received June 2023	Yes
8. Site to operate in accordance with a Stormwater Management Plan	Review of documentation received. Latest version received June 2023	Yes
9. Notification prior to significant changes to processes or operations	Inspections and liaison with consent holder – no significant changes during period	Yes
10. Provision for review of consent	Next option for review in June 2026	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 10 Summary of performance for Dialog Fitzroy consent 9981-1

Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option to prevent or minimise adverse effects	Inspections	Yes
2. Catchment area not to exceed 1.8 ha	Inspections	Yes
3. Concentration limits upon potential contaminants in discharge	Chemical sampling	Yes

Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
4. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection, receiving water sampling and biomonitoring	Yes
5. Prepare and maintain Contingency Plan	Review of documentation received. Latest version received June 2023	Yes
6. Preparation of Stormwater Management Plan	Review of documentation received. Latest version received June 2023	Yes
7. Consent holder to notify Council of significant changes to processes or operations	Liaison with consent holder	Yes
8. Provision for review of consent	Next option for review in June 2026	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

During the year, Dialog Fitzroy demonstrated a high level of environmental and administrative performance with their resource consents as defined in Appendix II.

5 Downer EDI Works Ltd

5.1 Site description

Downer EDI Works Ltd (Downer) operates an asphalt manufacturing plant at a site off Rifle Range Road (Figure 6). A depot for maintenance, parking and storage of equipment and materials used in road-making is also on the site. Ownership of the plant has changed several times, with Works Civil Construction previously taking over the site from Technix Industries Ltd in November 1997.



Figure 6 Aerial view of Downer site with associated sampling points

In the manufacturing process, aggregate metal is dried by gas heating and is mixed with heated bitumen to form hot-mix bitumen. Diesel oil and/or kerosene may be added to adjust the consistency of the mix. The product is loaded onto trucks for transport. Dust and gases generated from the process are treated in a wet scrubber. Scrubber effluent is treated in four settling ponds then reused.

The asphalt plant stormwater catchment contains raw materials, comprising various grades of aggregate, static bitumen tanks, banded emulsion tanks, and stores housing bitumen additives and plant maintenance materials, such as chain oil.

The depot includes an administration building, vehicle and equipment maintenance workshops, aggregate stores, and an area for parking motor vehicles and equipment.

The plant is situated on the right bank of the Mangaone Stream near its confluence with the Waiwhakaiho River. Stormwater from this area drains via a three-stage oil separator to a small constructed wetland that also receives piped water from naturally-occurring springs in the area. Stormwater from the eastern side of the site which contain aggregate storage and the asphalt plant is treated by a three-stage interceptor prior to discharge to the network. There is also a truck wash facility in the depot area, the drainage from which is currently diverted to sewer at all times by means of a locked diversion valve.

Drainage from the asphalt plant settling ponds (which have a baffle installed on the outlet to contain floatables) and the depot both discharge via the small wetland, to the Mangaone Stream immediately above the Rifle Range Road Bridge.

Downer holds consent 3917-3 to discharge treated stormwater from an asphalt manufacturing plant onto land and into the Mangaone Stream. It contains all eight of the standardised special conditions as set out in section 1.2. The permit is attached to this report in Appendix I.

5.2 Results

5.2.1 Inspections

Two routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted on 4 May and 29 June 2023.

The inspections found the majority of the site clean and well maintained. The stormwater drainage on-site were clean and unobstructed. When a stormwater discharge was observed, it was running clear and no adverse effect was noticed on the receiving environment. The scrubber area around the settling ponds was well bunded and contained, with no overflow or flooding observed. The hazardous materials were stored and contained adequately. However, on the second inspection, the "road marking" area of the site was found not well maintained, with a few drums and IBCs not stored appropriately. No leakage or leaching was observed but the Council was expecting to find these items stored in a safer area or in a bund for the next visit.

5.2.2 Results of discharge monitoring

Chemical monitoring of discharges from the site of Downer EDI Works Ltd takes place at two points. The scrubber settling pond effluent discharges to the onsite wetland with a sample of the effluent collected from pond outlet (site IND002002). Discharge from the pond outlet is then combined with stormwater from the depot and is treated in the oil separator and constructed wetland. The combined discharge is sampled at the outlet to the Mangaone Stream (site MGO000189).

The discharge from the scrubber ponds is often highly turbid, however, further "treatment" occurs in the constructed wetland. The discharge to the wetland is usually a grey colour, and contains a high concentration of fine suspended solids.

The results of chemical monitoring of the scrubber pond effluent and combined stormwater flows for the period under review are given in Table 11, and compared to the limits set out in the consent. Results for the monitoring period complied with consented limits and were within expected ranges.

Table 11 Downer sampling results from the pond outlet (IND002002) and downstream of the discharge (MGO000189). The consent limits apply to the discharge

Parameters	Units	IND002002	MGO000189	Consent limits
Temperature	°C	19.3	17.8	-
pH	pH	7.4	7.0	6.0 – 9.0
Conductivity	mS/m	23.1	8.4	-
Suspended solids	g/m ³	155	97	100
Turbidity	NTU	156	100	-
Total hydrocarbons	g/m ³	< 4	< 0.7	15*

**Hydrocarbons measured in place of oil & grease*

5.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents in association with Downer's conditions in resource consents or provisions in Regional Plans.

5.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 12.

Table 12 Summary of performance for Downer EDI consent 3917-3

<i>To discharge treated stormwater and minor amounts of treated air scrubber wastewater from an asphalt manufacturing plant onto land and into the Mangaone Stream</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Inspections	Yes
2. Limit on catchment size	Inspections	Yes
3. Limits on contaminants in discharge	Sampling	Yes
4. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspections and receiving water sampling and biomonitoring	Yes
5. Maintain and adhere to a stormwater management plan	Inspections and programme supervision	Yes
6. Maintain and adhere to a spill contingency plan	Inspections and programme supervision	Yes
7. Notify the Council of changes at site	No notification received	N/A
8. Provision for review of consent	Next opportunity for review June 2026	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

During the period under review, Downer EDI Works Ltd demonstrated a high level of environmental performance and high level of administrative performance and compliance with their resource consent and RFWP as defined in Appendix II.

6 Enviro NZ

6.1 Site description

Enviro NZ (or Envirowaste Services Ltd) operates a material recovery facility (MRF) on Colson Road (Figure 7). The site receives and separates recyclable material sourced from district council kerbside collections and transfer stations for the entire Taranaki region.

Stormwater from the site discharges via retention ponds to the Puremu and Mangamiro Streams. Prior to discharge the stormwater is treated in long sediment ponds that discharge via grates to prevent litter being carried with it.



Figure 7 Aerial view of Enviro NZ site with associated sampling points

Enviro NZ holds consent **10109-1** to discharge stormwater from an industrial site into the Puremu Stream and an unnamed tributary of the Mangaone Stream. It has nine of the standardised special conditions as set out in section 1.2. The permit is attached to this report in Appendix I.

6.2 Results

6.2.1 Inspections

One routine compliance monitoring inspection was conducted at the site on 11 April 2023 to assess compliance with resource consent conditions.

The inspection was undertaken under periodic rain events. The stormwater drains were free from obstruction. There was no discharge of stormwater at the moment of the inspection. The inspection was rated as compliant.

6.2.2 Results of discharge monitoring

Monitoring of discharges from the Enviro NZ site takes place at two points. Stormwater discharging to the Puremu Stream is sampled at STW002091 whilst stormwater discharging to the Mangamiro Stream is sampled at STW002092 (Figure 7). The results of the discharge sampling are given in Table 13.

Table 13 Enviro NZ stormwater sampling results from Mangaone wet run, carried out on 4 May 2023

Parameters	Units	STW002091	STW002092	Consent limits
Temperature	°C	17.2	17.8	-
pH	pH	7.0	7.0	6.0 – 9.0
Conductivity	mS/m	5.8	4.3	-
Suspended solids	g/m ³	12	< 3	100
Turbidity	FNU	7.5	1.36	-
Nutrients				
NH ₃	g/m ³	0.00142	< 0.00004	-
NH ₄	g/m ³	0.41	< 0.010	-

All results were found to be compliant with consent conditions, and within historical ranges for both sites. Receiving water results indicate no adverse effects were occurring in the Mangamiro or Mangaone Streams during the times Enviro NZ was discharging stormwater (see section 15.1.2).

6.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with Enviro NZ's conditions in resource consents or provisions in Regional Plans.

6.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 14.

Table 14 Summary of performance for Enviro NZ consent 10109-1

Purpose: To discharge stormwater from an industrial site into the Puremu Stream and an unnamed tributary of the Mangaone Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Inspections	Yes
2. Limit on catchment size	Inspections	Yes
3. Limits on contaminants in discharge	Sampling	Yes
4. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling and biomonitoring	Yes
5. Maintain and adhere to a stormwater management plan	Plan provided July 2023	Yes
6. Maintain and adhere to a spill contingency plan	Plan provided July 2023	Yes

Purpose: To discharge stormwater from an industrial site into the Puremu Stream and an unnamed tributary of the Mangaone Stream

Condition requirement	Means of monitoring during period under review	Compliance achieved?
7. Notify the Council of changes at site	No notification received	N/A
8. Lapse condition	Consent exercised	N/A
9. Provision for review of consent	Next opportunity for review June 2026	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

During the year, Enviro NZ demonstrated a high level of environmental and administrative performance with their resource consent as defined in Appendix II.

7 Firth Industries Ltd (division of Fletcher Concrete & Infrastructure Ltd)

7.1 Site description

Firth Industries Ltd (Firth) operates a concrete batching plant on a 1.19 ha site off Clemow Road, on the true left bank of the Waiwhakaiho River (Figure 8). The plant is situated partly on the flood plain and partly above the escarpment formed by the river. A concrete precast factory operated by Ultimate Engineered Concrete Ltd was previously located on the site, but has since relocated to De Havilland Drive. The precast factory was located on the escarpment above the main site and included a bedding plant that is no longer operational. The stormwater drainage system for this site is still in place.



Figure 8 Aerial view of Firth site with associated sampling points

Stormwater from the lower part of the site is processed by a purpose-built Siltbuster Ltd stormwater treatment system, before discharging to the Waiwhakaiho River via an old watercourse. This system was installed and began operating in September 2020. Prior to this, stormwater was treated in a four-pond settling system before being pumped to the river. Wastewater from the washing of plant and concrete delivery trucks is discharged to separate wastewater treatment system which treats and recycles the wastewater.

Stormwater from the upper part of the site, where the bedding plant is situated, discharges via two small settling pits to the Waiwhakaiho River at a separate point.

A range of chemicals used in the ready-mix and precast operations are held in the catchment of the main settling system. On the whole, they are either stored indoors or within bunded areas.

Off-specification and surplus concrete, and solids from the settling ponds are deposited along the riverbank. This forms part of the flood protection works for the site. Excess solids are removed from the site periodically.

Firth holds consent **0392-4** to discharge stormwater and treated wastewater into the Waiwhakaiho River. This consent contains the nine standardised special conditions as set out in section 1.2. It also has one additional condition requiring stormwater and wastewater separation by a certain date. A copy of the permit is attached to this report in Appendix I.

7.2 Results

7.2.1 Inspections

Three routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted on 5 September 2022, and 23 March and 29 June 2023.

There was no activity on site at the time of the inspections. The site primary use is for truck washing and minor maintenance on vehicles. The site was found clean and tidy at the time of the inspections. The stormwater and truck wash water is treated in settlement ponds before being discharged. The site was rated as compliant at the time of the inspections.

7.2.2 Results of discharge monitoring

Runoff from Firth's site is monitored where it enters the Waiwhakaiho River below the former settling ponds and new treatment system (site IND002001). This also includes stormwater runoff from the adjacent property (which is not owned by Firth, but is within the area covered by their resource consent). Discharges from the settling pond at the bedding plant, located above the main plant, are sampled from a flume at the main entrance to the lower yard (STW001080).

Consent conditions require that the discharges do not exceed 15 g/m³ of oil and grease or 100 g/m³ of total suspended solids. Consent conditions also require that discharges do not cause a pH of below 6.0 or above 9.0 and/or an increase of pH of more than 0.5 in the Waiwhakaiho River, 50 m downstream, of the discharge point.

The results for the stormwater drain and the flume discharge are given in Table 15. The results were compliant with the resource consent conditions and within the historical range for the site. The results of monitoring the receiving waters below the site are reported in section 15.

Table 15 Firth stormwater sampling results, sites IND002001 and STW001080

Parameters	Units	IND002001		STW001080		Consent limits
		5 Sep. 2022	19 May 2023	5 Sep. 2022	19 May 2023	
Temperature	°C	12.4	13.5	10.7	14.2	-
pH	pH	8.2	7.9	7.1	7.3	6.0 – 9.0
Conductivity	mS/m	22.5	31.7	1.9	5.6	-
Suspended solids	g/m ³	57	5	4	25	100
Turbidity	FNU	40	1.31	2.6	6.1	-
CBOD	g O ₂ /m ³	-	-	-	1.1	-
DRP	g/m ³	-	-	-	0.060	-

Metals (dissolved)						
Copper	g/m ³	-	-	-	0.0032	-
Zinc	g/m ³	-	-	-	0.119	-

7.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with Firth's conditions in resource consents or provisions in Regional Plans.

7.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 16.

Table 16 Summary of performance for Firth consent 0392-4

Purpose: <i>To discharge stormwater and treated wastewater into the Waiwhakaiho River</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Inspections and programme supervision	Yes
2. Stormwater catchment not to exceed 1.618 ha	Inspections	Yes
3. Stormwater treatment system to be used	Inspections	Yes
4. Limits on contaminants in discharge	Sampling	Yes
5. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling and biomonitoring	Yes
6. Maintain and adhere to a contingency plan	Inspections and programme supervision	Yes
7. Maintain and adhere to a Management Plan	Updated plan received February 2023	Yes
8. Undertake improvements as set out in the management plan by 22 February 2016	Inspections	Plant completed
9. Notify Council of any changes at the site	Inspections and liaison with consent holder	Yes
10. Review condition	Next opportunity for review June 2026	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

During the period under review, Firth Industries Ltd demonstrated a high level of environmental and of administrative performance and compliance with their resource consent and RFWP as defined in Appendix II.

8 KiwiRail Holdings Ltd/ New Zealand Railways Corporation (KiwiRail)

8.1 Site description

New Zealand Railways Corporation/KiwiRail Holdings Ltd (KiwiRail) own a rail terminal on a site off Smart Road (Figure 9). In addition to transportation of freight, the terminal is utilised as a maintenance depot. The freight receipt and dispatch area and the refuelling and maintenance depots are situated at the Smart Road end of the site.



Figure 9 Aerial view of KiwiRail site with associated sampling points

Drainage from the area to the west and north of the offices (the refueling and maintenance areas) flows to the Waiwhakaiho River via McLeod's Drain, an underground pipe that also receives stormwater from Devon 662's former fertiliser depot, other industrial sites, a residential area, and a rural area. Wastewater from washing of wagons, containers and locomotives is treated in a three-stage oil separator before discharge to the river. Liquids from the repair depot and locomotive fueling point are discharged to an underground holding tank that is emptied by a waste disposal company at two-monthly intervals. The holding tank is also connected to the oil separator via an automatic pump in case of overfilling.

Drainage from the (sealed) freight area and the unsealed areas of the eastern end of the site is to the Mangaone Stream and its tributaries.

Railway wagons carrying containers of hazardous substances and the bulk products including urea, resins, fertilisers, di-ammonium phosphate (DAP), lime, oils, bitumen and carbon dioxide are held temporarily on the tracks in this area. No loading or unloading of freight takes place in the stormwater catchment that drains to the Mangaone Stream.

KiwiRail hold two consents for the Smart Road railway yard. One consent relates to the discharge of treated wastewater and stormwater to the Waiwhakaiho River which is held by KiwiRail Holdings Ltd, and the other is to discharge of stormwater to the Mangaone Stream which is held by New Zealand Rail Corporation.

KiwiRail holds consent **3528-3** to discharge stormwater into the Waiwhakaiho River. This consent contains the standardised conditions as set out in section 1.2 as well as limits of 3 g/m³ ammoniacal nitrogen (NH₄) and 1 g/m³ dissolved reactive phosphorus (DRP).

KiwiRail (trading as NZRC) holds consent **1735-3** to discharge stormwater from the Smart Road Rail Terminal into an unnamed tributary of the Mangaone Stream, and into the Mangaone Stream in the Waiwhakaiho catchment. The unnamed tributary of the Mangaone is informally referred to as the Mangamiro Stream. This consent contains the standardised special conditions as set out in section 1.2.

8.2 Results

8.2.1 Inspections

Three routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted on 4 January, 11 April and 29 June 2023.

At the time of the inspections, the site was found clean and tidy. The fuel tank was stored appropriately in a bunded area, adjacent to a sump and trade waste area to capture any minor run off or spills. The interceptor was unobstructed and appeared well maintained. During the January inspection, the drain bags in the large sumps in the centre of the site needed to be cleaned out. It was cleared and unobstructed for the other inspections. When there was a discharge, the discharge was running clear and no adverse effects were observed on the receiving environment.

8.2.2 Results of discharge monitoring

The discharge of stormwater from the freight and fuel handling and storage areas is monitored where the stormwater enters the Smart Road stormwater drain, south of the railway overbridge (site IND002014). The results for period under review are given in Table 17. Compliance with consent limits was achieved for all parameters during the period under review.

Table 17 KiwiRail stormwater sampling results, site IND002014

Parameter	Unit	11 Nov 2022	4 May 2023	19 May 2023	Consent limits
Temperature	°C	20.0	17.8	14.8	-
pH	pH	7.0	6.9	7.0	6.0 – 9.0
Conductivity	mS/m	11.6	5.0	10.0	-
Suspended solids	g/m ³	34	10	12	100
Turbidity	NTU/FNU [†]	8.2 [†]	6.6	5.7	-
TBOD	g O ₂ /m ³	7.8	1.0	0.7	-
Total hydrocarbons	g/m ³	< 0.7	pass [^]	pass [^]	15*
Nutrients					
NH ₃	g/m ³	0.00099	< 0.00003	0.00012	-
NH ₄	g/m ³	0.21	< 0.010	0.045	3
DRP	g/m ³	0.122	0.082	0.021	1

*Hydrocarbons measured in place of oil & grease; [^]visually assessed

8.2.3 Results of surface water monitoring

One survey of the surface waters in the Mangamiro Stream was conducted for the period under review, and the results of this monitoring are reported in Table 18. Compliance with consent limits was achieved for most of the parameters during the period under review. Suspended solids were measured at 330 g/m³, which is exceeding the consent limit set at 100 g/m³. No enforcement action was taken as the sample taken was the Mangamiro Stream, not the KiwiRail discharge. Sampling of the site discharge from the eastern end into the Manganone Stream is carried out via the Mangamiro Stream, which is culverted for the entire stretch flowing beneath the yard. Further investigation into this exceedance is required to identify the source.

Table 18 Mangamiro Stream surface water sampling results, 4 May 2023

Parameters	Units	MMR000061	MMR000100	Consent limits
		Upstream of yard	Below yard discharge	
Temperature	°C	17.0	17.1	-
pH	pH	6.9	7.0	6.0 – 9.0
Conductivity	mS/m	10.9	7.7	-
Suspended solids	g/m ³	20	330	100
Turbidity	FNU	21	133	-
CBOD	g O ₂ /m ³	< 1.0	-	-
Metals (dissolved)				
Copper	g/m ³	0.0017	-	-
Zinc	g/m ³	0.0020	-	-
Nutrients				
NH ₃	g/m ³	0.00028	0.00060	-
NH ₄	g/m ³	0.124	0.174	-
DRP	g/m ³	0.006	0.014	-

8.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with KiwiRail's conditions in resource consents or provisions in Regional Plans.

8.4 Evaluation of performance

A tabular summary of the KiwiRail's compliance record for the period under review is set out in Table 19 and Table 20.

Table 19 Summary of performance for KiwiRail consent 1735-3

Purpose: To discharge stormwater into the Mangaone Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to prevent or minimise adverse effects	Inspections and receiving water monitoring	Yes
2. Limits stormwater catchment to 11.28 ha	Inspections	Yes
3. Bunding of hazardous substances if on site for more than three days	Inspections	N/A
4. Concentration limits upon potential contaminants in discharge	By inference from chemical sampling of receiving water	Yes Noting that further investigation into the suspended solid exceedance is required
5. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling and biomonitoring	Yes
6. Prepare and maintain contingency plan	Plan received in July 2021	Yes
7. Prepare, maintain and adhere to management plan	Plan received in July 2021	Yes
8. Provision for lapsing of consent	Consent exercised	N/A
9. Provision for review of conditions	No further provision for review prior to expiry	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 20 Summary of performance for KiwiRail consent 3528-3

Purpose: To discharge of stormwater into the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Inspections	Yes
2. Size of catchment area	Inspections	Yes
3. Contaminant limits in discharge	Sampling	Yes
4. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling and biomonitoring	Yes
5. Contingency planning	Plan received in July 2021	Yes

Purpose: <i>To discharge of stormwater into the Waiwhakaiho River</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
6. Adhere to Stormwater management plan	Plan received in July 2021	Yes
7. Notification of changes in site processes	No changes made	N/A
8. Review condition	No further provision for review prior to expiry	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

During the period under review, KiwiRail Holdings Ltd/New Zealand Railways Corporation Ltd demonstrated a high level of environmental and administrative performance and compliance with their resource consent as defined in Appendix II.

9 New Plymouth District Council

9.1 Site description

New Plymouth District Council (NPDC) holds two resource consents in relation to discharges to the Lower Waiwhakaiho River below State Highway 3, and one consent in relation to discharges to the Mangaone Stream. The results for the stormwater and leachate discharge monitoring are reported on separately.

It has been acknowledged that NPDC has no direct control over the quality of discharges from sites in the catchment. However, road run-off and surface flooding due to poorly maintained drains may contribute to the contamination of stormwater entering the Waiwhakaiho River and Mangaone Stream.

All stormwater screen inlets and outlets in the system are inspected and cleaned regularly by NPDC to ensure that debris is not accumulated in any way that may affect the network capacity. Outfalls with flap gates are serviced every two months. These inspections are usually undertaken following a heavy rainfall event.

During periods of high rainfall, one of the key features of the performance of the stormwater drainage system is its susceptibility to inlet and outlet blockages. The NPDC maintenance plan aims to reduce reactive maintenance and improve the operation and reliability of the system through preventative maintenance. This includes pipeline condition assessment using video inspection.

9.1.1 Water discharge permits

Waiwhakaiho River

NPDC holds consent **5163-2** to discharge stormwater from the Waiwhakaiho industrial area into the Waiwhakaiho River via multiple outfalls between State Highway 3 and the confluence with the Mangaone Stream. The catchment area and location of stormwater and landfill leachate discharge points are shown in Figure 10. Conditions on the consent require the consent holder to adopt the best practicable option to prevent or minimise any adverse effects, address erosion, and prohibit some specific effects.

Mangaone Stream

NPDC holds consent **1275-3** to discharge stormwater from the Katere and Waiwhakaiho industrial areas into the Mangaone Stream via multiple outfalls between Egmont Road and the confluence with the Waiwhakaiho River. The catchment area and location of stormwater and landfill leachate discharge points are shown in Figure 11. Conditions on the consent require the consent holder to adopt the best practicable option to prevent or minimise any adverse effects, address erosion, and prohibit some specific effects.



Figure 10 Aerial view of NPDC stormwater and leachate discharge locations in the Waiwhakaiho Catchment



Figure 11 Aerial view of NPDC stormwater discharges to the Mangaone Stream

9.1.2 Bewley Road closed landfill

The old Taranaki County Council (TCC) depot site was quarried at the end of its life, and was then infilled, becoming the Bewley Road landfill. The former Bewley Road landfill extended for about 740 m along the Waiwhakaiho River bank between Constance Street and Vickers Road, and back to Devon Road. In 2006, the closed landfill area was developed and is now the site of the Valley Mega Centre retail outlet and car park. Leachate from the site discharges to groundwater which seeps into both the stormwater network, and the Waiwhakaiho River, along the river bank between Constance Street and Vickers Road. There is no treatment of the leachate generated from this closed landfill. Leachate is discharged continuously to the river at very low levels and low volumes.

NPDC holds consent **4984-2** to discharge landfill leachate to groundwater and the Waiwhakaiho River from an industrial development off Bewley Road. The consent has conditions that set limits for contaminant concentrations in the discharge, limit effects on receiving water, require the maintenance of monitoring bores, and provide for the review. The results of compliance monitoring for consent **4984-2** are detailed in section 10.2.3 and 10.2.4.

Copies of all NPDC permits are attached to this report in Appendix I.

9.2 Results

9.2.1 Inspections

Three routine compliance monitoring inspections were conducted during the monitoring period to assess the compliance of NPDC's stormwater and landfill leachate discharges with their respective resource consent conditions. These inspections were conducted on 5 September 2022, 4 May and 29 June 2023.

In general, visual inspections of discharge points and receiving waters found that most discharge points only contained a small volume of clear discharge with no sheen present in the discharge or receiving waters. No issues or adverse effects on the receiving environment were noted on any of the inspections.

9.2.2 Results of discharge monitoring

Discharge monitoring is carried out at six public stormwater drain outlets, three of which also discharge wastewater or stormwater from consented industrial sites. These are McLeod's Drain (STW001001) at the bottom of Smart Road, the "mid Katere Road" storm drain (STW001116) to the Mangaone Stream and the storm drain to the Mangaone Stream (STW001035) that services the Hurlstone Drive area.

No contaminant concentration limits have been incorporated into the NPDC consents as it is acknowledged that, for the most part, the District Council has no direct control over the quality of the discharges from the industrial and commercial sites. However, the quality of the discharges are still required to meet requirement of the RFWP permitted activity rules for stormwater discharge to water. Therefore, discharges are monitored, as road run-off and surface flooding due to poorly maintained drains may contribute to the contamination of stormwater entering the receiving waters.

9.2.2.1 Discharge to Waiwhakaiho River from Burton Street

The sampling site that monitors the discharge of stormwater from the Burton Street area as it enters the Waiwhakaiho River was introduced during the 1999-2000 monitoring period. The drain carries stormwater from a number of small commercial sites that are located along Burton Street. The discharge is monitored to determine influences on water quality occurring upstream of other larger discharge sources (such as Firth's or McLeod's Drain).

The results of routine chemical monitoring for the period under review are presented in Table 21. The pH, suspended solids, and oil and grease concentrations were determined to be within the standards expected for permitted activities within this stormwater catchment.

Table 21 Stormwater sampling results for Burton Street, site STW001081

Parameter	Unit	5 Sep 2022	4 May 2023	19 May 2023	RFWP Guideline
Temperature	°C	11.0	18.1	14.6	-
pH	pH	6.8	6.7	7.0	6.0 – 9.0
Conductivity	mS/m	0.9	0.9	4.4	-
Suspended solids	g/m ³	13	< 4	7	100
Turbidity	FNU	8.5	2.3	3.9	-
Hydrocarbons	g/m ³	< 0.7	< 0.7	pass [^]	15*

*Hydrocarbons measured in place of oil & grease; [^]visually assessed

9.2.2.2 Discharge to Waiwhakaiho River from McLeod's Drain

The discharge from McLeod's Drain enters the Waiwhakaiho River about 50 m downstream of the lower end of Smart Road. The drain carries stormwater from the Devon 662 site, other industrial sites including the railyard on Smart Road, the residential area of Glen Avon, and a rural area to the south. The discharge is monitored to determine influences on water quality in addition to those of the former fertiliser storage depot and railyard.

Although Devon 662's former fertiliser depot is no longer in use, there is likely to still be some inputs of phosphorus and ammonia due to dissolution of existing fertiliser particles carried by wind or water into storm drains at and around the site. The results of routine chemical monitoring for the period under review are presented in Table 22.

Table 22 Stormwater sampling results for McLeod's Drain, site STW001001

Parameter	Unit	5 Sep 2022	19 May 2023	RFWP Guideline
Temperature	°C	11.6	15.2	-
pH	pH	7.2	7.1	6.0 – 9.0
Conductivity	mS/m	10.8	10.1	-
Suspended solids	g/m ³	15	37	100
Turbidity	FNU	11.7	16.8	-
Hydrocarbons	g/m ³	< 0.7	< 0.7	15*
Nutrients				
NH ₃	g/m ³	0.00165	0.0025	0.025
NH ₄	g/m ³	0.42	0.70	-
DRP	g/m ³	0.024	0.042	-

*Hydrocarbons measured in place of oil & grease

The pH, unionised ammonia (NH₃), and hydrocarbon concentrations were all determined to be well within the standards expected for a permitted activity and within the prescribed "standardised" limits for the consent holders contributing to this discharge.

9.2.2.3 Discharge to Waiwhakaiho River from Vickers Road

This catchment drains the area on both sides of Vickers Road, containing discharge from the south-western end of Dialog site, and along with a section of Devon Road, to the west of the Katere Road junction. The results for the period under review are given in Table 23.

Table 23 Stormwater sampling results for Vickers Road, site STW001020

Parameter	Unit	11 April 2023	19 May 2023	RFWP Guideline
Temperature	°C	18.1	15.5	-
pH	pH	6.9	7.1	6.0 – 9.0
Conductivity	mS/m	5.4	10.0	-
Suspended solids	g/m ³	45	32	100
Turbidity	FNU	24	20	-
Hydrocarbons	g/m ³	< 0.7	< 0.7	15*

*Hydrocarbons measured in place of oil & grease

Sampling showed that the suspended solids, pH, and hydrocarbon concentrations were within the standards expected for the permitted activities within this stormwater catchment on all monitoring occasions.

9.2.2.4 Discharge to Mangaone Stream from mid Katere Road

Stormwater from the mid-section of Katere Road discharges to the Mangaone Stream upstream of the discharge from Taranaki Sawmill's timber treatment plant site, and carries stormwater from a number of permitted activities on the northern side of Katere Road, and from the Urban Aspect Limited site. Monitoring of this discharge commenced in 2007. The results for the period under review are presented in Table 24.

Table 24 Stormwater sampling results for mid Katere Road, site STW001116

Parameter	Unit	5 Sep 2022	4 May 2023	RFWP Guideline
Temperature	°C	11.0	17.4	-
pH	pH	7.2	7.5	6.0 – 9.0
Conductivity	mS/m	3.0	5.5	-
Suspended solids	g/m ³	33	94	100
Turbidity	NTU [†] /FNU	21	46 [†]	-
TBOD	g O ₂ /m ³	1.8	6.3	5
Hydrocarbons	g/m ³	< 0.7	< 4	15*
Nutrients				
NH ₃	g/m ³	0.00048	0.0025	0.025
NH ₄	g/m ³	0.129	0.27	-
DRP	g/m ³	0.071	0.27	-

*Hydrocarbons measured in place of oil & grease

The consent held by NPDC for discharges into the Mangaone Stream has no conditions relating to the quality of the discharge. However, all results for the monitoring period met the RFWP limits for a permitted stormwater discharge to water and were within expected ranges. The total biological oxygen demand was

slightly higher than the RFWP guideline, but the results was within the historical range ($n = 11$, median = $6 \text{ g O}_2/\text{m}^3$, min = $1.8 \text{ g O}_2/\text{m}^3$, max = $19 \text{ g O}_2/\text{m}^3$, from Oct 2018 to May 2023).

9.2.2.5 Discharge to Mangaone Stream from Hurlstone Drive

Stormwater from the industrial area along Hurlstone Drive discharges to the Mangaone Stream immediately upstream of State Highway 3. This discharge contains stormwater and wastewater from Allied Concrete's batching plant as well as roadside runoff. The results of routine chemical monitoring for the period under review are presented in Table 25.

Table 25 Stormwater sampling results for Hurlstone Drive, site STW001035

Parameter	Unit	4 May 2023	RFWP Guideline
Temperature	°C	18.1	-
pH	pH	9.2	6.0 – 9.0
Conductivity	mS/m	4.2	-
Suspended solids	g/m^3	44	100
Turbidity	FNU	21	-
Hydrocarbons	g/m^3	< 0.7	15*
Nutrients			
NH ₃	g/m^3	0.057	0.025
NH ₄	g/m^3	0.158	-

*Hydrocarbons measured in place of oil & grease

The suspended solids and hydrocarbon concentrations complied with standards expected for a permitted activity, and were within the prescribed limits for consent holders discharging via this outlet. The pH was slightly higher than RFWP guideline, reflecting the activity of the concrete above.

9.2.3 Results of groundwater monitoring

There are three groundwater bores located around the periphery of the area, which NPDC is required to maintain for the purpose of consent compliance monitoring with consent **4984-2** to discharge landfill leachate to groundwater. There is also a leachate discharge monitoring point at the outlet of the main drain which carries the groundwater to the river. The locations of the four sites are shown on Figure 2 as GND0548, GND0555, GND0556, and WKH000872. Stormwater from the retail area between Struthers Place and Constance Street, the commercial area of Struthers Place, and part of Rifle Range Road and a small unnamed tributary that once discharged at this location are also piped to the Waiwhakaiho via this leachate discharge point.

9.2.3.1 Bore GND0556

Groundwater monitoring bore GND0556 is drilled into natural alluvial deposits beside Devon Road and acts as a control bore for the area. This bore was affected by the raising of the ground surface around it by approximately 0.5 m which may affect the chemical results. The results for this site are shown in Table 26.

Table 26 NPDC groundwater sampling results, site GND0556

Parameter	Unit	3 March 2023	26 June 2023	Consent limits
Level	m	2.20	2.14	-
Temperature	°C	21.5	17.8	-

Parameter	Unit	3 March 2023	26 June 2023	Consent limits
pH	pH	6.6	6.1	6.5 – 8.5
Conductivity	mS/m	157.9	157.6	-
DO	mg/L	0.15	0.17	-
	%	1.7	1.8	-
Alkalinity (as CaCO ₃)	g/m ³ as CaCO ₃	81	67	-
Bicarbonate	g/m ³	99	81	-
COD	g O ₂ /m ³	< 6	< 6	-
Potassium	g/m ³	48	40	-
Dissolved Zinc	g/m ³	0.0047	0.0069	-
Nutrients				
NH ₃	g/m ³	0.0189	0.0043	-
NH ₄	g/m ³	8.6	7.3	25
NNN	g/m ³	0.004	0.133	-
DRP	g/m ³	< 0.004	< 0.004	0.065

The levels recorded for each of the parameters analysed were similar to previously observed values. Unionised ammonia was the highest historically measured on 3 March 2023, at 0.0189 g/m³, and the June measurement was at the same level of what recorded pre-2017. Ammoniacal nitrogen continue to be at elevated levels when compared to pre-2017 results. Potassium and sulphate concentrations, which also spiked in 2018, are still at elevated levels compared to pre-2017. The exact cause of increases in these parameters at this bore are not known. However, the bores around the old Ravensdown site (up gradient and to the west) do contain elevated levels of sulphate and ammoniacal nitrogen and are known have some connectivity to the bores in the Bewley Road area. On one sampling occasion, pH was recorded outside of consent limits at 6.1 pH units. The total oxidised nitrogen concentrations have decreased drastically since the uncharacteristically high concentration measured in June 2022.

9.2.3.2 Bore GND0555

Groundwater monitoring bore GND0555 is on Rifle Range Road between Struthers Place and Vickers Road. This bore was affected by stop-bank construction in a previous review period and had to be re-drilled as a result. During the 2001-2002 monitoring period it was found that this bore had collapsed internally and NPDC was requested to clear the bore or re-drill as necessary. The bore was subsequently re-drilled (prior to the sampling run undertaken in June 2002) and a bore log was provided to the Council. During the 2007-2008 monitoring period the bore was again destroyed by development activities in the area. NPDC replaced the bore at the request of the Council. The number of times this bore has been re-drilled needs to be considered in interpreting the results and in particular median values for parameters. The results for GND0555 are shown in Table 27.

Table 27 NPDC groundwater sampling results, site GND0555

Parameter	Unit	3 March 2023	26 June 2023	Consent limits
Level	m	2.75	2.73	-
Temperature	°C	21.0	18.5	-
pH	pH	6.6	6.6	6.5 – 8.5

Parameter	Unit	3 March 2023	26 June 2023	Consent limits
Conductivity	mS/m	51.1	64.7	-
DO	mg/L	0.71	0.32	-
	%	8.1	3.2	-
Alkalinity (as CaCO ₃)	g/m ³ as CaCO ₃	210	260	-
Bicarbonate	g/m ³	260	320	-
COD	g O ₂ /m ³	12	12	-
Potassium	g/m ³	8.4	10.1	-
Dissolved Zinc	g/m ³	0.0049	0.0069	-
Sulphate	g/m ³	0.9	< 0.5	-
Nutrients				
NH ₃	g/m ³	0.0128	0.0124	-
NH ₄	g/m ³	5.6	6.8	25
NNN	g/m ³	0.008	0.033	-
DRP	g/m ³	0.005	< 0.008	0.065

Ammoniacal nitrogen, dissolved reactive phosphorus, and pH complied with all consent limits. Most of the parameters were either similar to the median of all results and/or were below the maximum. Only ammoniacal nitrogen were in the higher range of what measured historically and well above the median.

9.2.3.3 Bore GND0548

Groundwater bore GND0548 is located near the corner of Struthers Place and Rifle Range Road. This is also a replacement bore as the first bore sunk in this area was destroyed during stop-bank construction in 1997. The replacement bore was itself destroyed during landscaping in front of what was then the Hookers site, and a new bore was installed prior to the sampling survey undertaken in October 2002. Care needs to be taken when interpreting the results, and in particular the median values for parameters. The results for GND0548 are shown in Table 28.

Table 28 NPDC groundwater sampling results, site GND0548

Parameter	Unit	3 March 2023	26 June 2023	Consent limits
Level	m	1.56	1.52	-
Temperature	°C	20.8	18.6	-
pH	pH	7.1	6.8	6.5 – 8.5
Conductivity	mS/m	71.3	80.0	-
DO	mg/L	0.14	0.09	-
	%	1.6	0.9	-
Alkalinity (as CaCO ₃)	g/m ³ as CaCO ₃	280	290	-
Bicarbonate	g/m ³	340	350	-
COD	g O ₂ /m ³	14	12	-
Potassium	g/m ³	25	22	-
Dissolved Zinc	g/m ³	< 0.0010	< 0.0010	-

Parameter	Unit	3 March 2023	26 June 2023	Consent limits
Sulphate	g/m ³	< 0.5	0.7	-
Nutrients				
NH ₃	g/m ³	0.046	0.033	-
NH ₄	g/m ³	7.4	11.0	25
NNN	g/m ³	0.002	0.005	-
DRP	g/m ³	< 0.004	< 0.008	0.065

Consent limits for ammoniacal nitrogen, dissolved reactive phosphorus, and pH were complied with. Unionised ammonia and ammoniacal nitrogen concentrations were lower than the maximum recorded in June 2022 but still in the higher range of the historical measurements. All other parameters tested had concentrations that were in line with or lower than historic results.

Overall, it is noted that elevated levels of potassium and ammoniacal nitrogen continue to be observed in all bores. However, the actual values being recorded either comply with consent conditions (for ammoniacal nitrogen) or are within acceptable ranges.

9.2.4 Results of surface water monitoring

The former Bewley Road landfill is situated on the right bank of the Waiwhakaiho River and extends about 740 m between Constance Street to a point near Vickers Road. The area has been substantially developed and now contains a retail park and a number of commercial operators. Combined discharge from stormwater, and landfill leachate to groundwater from this area enters the Waiwhakaiho River about site WKH000872 (Figure 1).

The Waiwhakaiho River is sampled at three points in relation to the landfill leachate discharge. The first is above the leachate discharge point (WKH000920), the second is adjacent to the discharge (WKH000925), and a third below the mixing zone (WKH000942). The results from these sites are used to assess any potential impacts of the leachate.

The leachate and associated river sites were sampled twice during the period under review, and results are shown in Table 29 and Table 30.

Table 29 NPDC landfill leachate and surface water sampling results, 3 March 2023

Parameter	Units	WKH000920	WKH000872	WKH000925	WKH000942	Consent limits
Temperature	°C	20.4	21.9	20.6	21.7	-
pH	pH	8.92	7.49	8.83	8.84	-
DO	mg/L	10.8	5.78	10.45	9.72	-
	%	120.8	66.2	116.0	110.3	-
Conductivity	mS/m	14.5	115	14.7	14.6	-
Sulphate	g/m ³	-	185	-	-	-
Turbidity	NTU	0.15	-	0.45	0.61	-
Total alkalinity	g/m ³ as CaCO ₃	-	195	-	-	-
COD	g O ₂ /m ³	-	12	-	-	-
Potassium	g/m ³	-	30	-	-	-

Parameter	Units	WKH000920	WKH000872	WKH000925	WKH000942	Consent limits
Dissolved Zinc	g/m ³	-	0.0130	-	-	-
Nutrients						
NH ₃	g/m ³	< 0.0010	1.45	0.0017	0.0015	0.0025
NH ₄	g/m ³	< 0.010	44	0.018	0.013	-
NNN	g/m ³	-	4.7	-	-	-
DRP	g/m ³	< 0.004	< 0.004	< 0.004	0.006	-

Table 30 NPDC landfill leachate and surface water sampling results, 26 June 2023

Parameter	Units	WKH000920	WKH000872	WKH000925	WKH000942	Consent limits
Temperature	°C	11.3	16.5	11.3	11.4	-
pH	pH	8.69	7.43	8.68	8.72	-
DO	mg/L	13.2	8.54	12.20	10.57	-
	%	122.3	90.1	112.9	98	-
Conductivity	mS/m	14.3	112.5	14.5	14.0	-
Sulphate	g/m ³	-	200	-	-	-
Turbidity	FNU/NTU ⁺	0.73	8.8 ⁺	0.53	0.90	-
Total Alkalinity	g/m ³ as CaCO ₃	-	176	-	-	-
COD	g O ₂ /m ³	-	10	-	-	-
Potassium	g/m ³	-	27	-	-	-
Dissolved Zinc	g/m ³	-	0.021	-	-	-
Nutrients						
NH ₃	g/m ³	< 0.0003	0.81	< 0.0004	< 0.0004	0.0025
NH ₄	g/m ³	< 0.010	30	< 0.010	< 0.010	-
NNN	g/m ³	-	4.9	-	-	-
DRP	g/m ³	< 0.004	< 0.004	< 0.004	< 0.004	-

Unionised ammonia exceeded the consent value of 0.025 g/m³ at WKH000872 site on both sampling occasions. Ammoniacal nitrogen concentrations in the leachate discharge from the same site are decreasing since the maximum measured at 54 g/m³ on 19 August 2021. While, ammoniacal nitrogen is dominant component of landfill leachate, it is unknown why ammoniacal nitrogen and unionised ammonia were so high at the time of sampling. Further to this, concentrations of unionised ammonia at WKH000872 appear to be increasing year on year. A similar pattern is noted in levels of ammoniacal nitrogen at the same site and may need exploring further.

Water samples from the downstream sampling point (WKH000942) indicated that unionised ammonia levels were below the RFWP limit for permitted effects in receiving waters (0.025 g/m³ NH₃). And results show only a slight increase ammoniacal nitrogen concentrations between the leachate discharge point and the downstream sample site. Given the extremely low levels found, there is unlikely to be any environmental

effects associated with this contaminant concentration. All other results were within consented limits and historical averages for each site.

Disturbance of contaminated soil and removal of hardstand areas had increased infiltration and very likely resulted in down-gradient mobilisation of nitrogen and phosphorus into the Bewley Road area (Section 3.2.3) about Devon 662 Ltd.

9.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with NPDC's conditions in resource consents or provisions in Regional Plans.

9.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 31, Table 32, and Table 33.

Table 31 Summary of performance for NPDC consent 1275-3

Purpose: To discharge stormwater discharge from the Katere Industrial area into the Mangaone Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to minimise adverse effects	Inspection and receiving water monitoring	Yes
2. Prevention of erosion	Visual assessment at inspection and receiving water sampling	Yes
3. Discharge cannot cause specified adverse effects in Mangaone Stream	Inspection and receiving water monitoring	Yes
4. Optional review provision re environmental effects	No further provision for review prior to expiry	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 32 Summary of performance for NPDC consent 5163-2

Purpose: To discharge stormwater discharge from an industrial subdivision into the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to minimise adverse effects	Inspection and receiving water monitoring	Yes
2. Prevention of erosion	Visual assessment at inspection and receiving water sampling	Yes
3. Discharge cannot cause specified adverse effects in Mangaone Stream	Inspection and receiving water monitoring	Yes
4. Optional review provision re environmental effects	No further provision for review prior to expiry	N/A

Purpose: To discharge stormwater discharge from an industrial subdivision into the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
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 33 Summary of performance for NPDC consent 4984-2

Purpose: To discharge leachate from a former landfill site into groundwater, adjacent to the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limits on chemical composition of discharge	Inspection and sampling of discharge	No pH below and NH ₄ above consented limits on at GND0556 and NH ₃ above at WKH000872
2. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling	Yes
3. Maintenance of monitoring bores	Inspection and accessibility at sampling	Yes
4. Optional review provision re environmental effects	No further provision for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

During the period under review, New Plymouth District Council demonstrated a good level of environmental performance and high level of administrative performance and compliance with its resource consents as defined in Appendix II. Further work may be required to understand the chemical fluctuations, and subsequent breaches of consent limits, in leachate discharge to groundwater and surface water in the area.

10 Ravensdown Fertiliser Co-operative Ltd

10.1 Site description

The New Plymouth depot of Ravensdown Fertiliser Co-operative Ltd (Ravensdown) occupies an area of about 8 Ha of land adjacent to the KiwiRail yard (Figure 12). The depot receives, bags, blends and distributes fertilisers in various forms, namely superphosphate, lime, dolomite and imported high analysis products such as ammonium sulphate, urea, triple super, potassium chloride (potash) and monoammonium and diammonium phosphates. Small volumes of trace element fertilisers such as zinc sulphate are also handled through the store.

Stormwater from the roof and the area immediately surrounding the main building is directed through a planted wetland prior to discharge to the Mangaone Stream. Stormwater from the upper end entrance road is diverted to settling ponds and discharged to the Mangaone Stream further downstream. Stormwater from the lower part of the access road is diverted to the Waiwhakaiho River via MacLeod's drain on Smart Road.



Figure 12 Aerial view of Ravensdown site

Ravensdown holds consent **10513-1** to discharge stormwater from a fertiliser storage site onto and into land and water. This consent contains eight of the nine standard special conditions as set out in section 1.2. As the activity had already commenced when the consent was granted, the standard lapse condition was omitted. A copy of the permit is attached to this report in Appendix I.

10.2 Results

10.2.1 Inspections

Two routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted on 30 August 2022 and 29 June 2023.

Ravensdown site was visually well maintained, with a clean and tidy yard. However, since the building construction was completed, Ravensdown was found non-compliant with the resource consent conditions due to elevated ammonia in the discharge. The Council met twice with Ravensdown to discuss the work carried out to improve the discharge quality. Ravensdown installed bird scarers on the roof and extended the swale.

10.2.2 Results of discharge monitoring

The discharge from the pond that treats stormwater from the roof and operation areas was sampled twice during the monitoring period. Results are displayed in Table 34.

Table 34 Ravensdown stormwater sampling results, site STW002097

Parameter	Unit	13 September 2022	4 May 2023	Consent limits
Temperature	°C	13.0	17.3	-
pH	pH	7.1	6.9	6.0 – 9.0
Conductivity	mS/m	17.0	3.7	-
Suspended solids	g/m ³	< 10	< 3	100
Turbidity	FNU	1.30	0.71	-
CBOD	g O ₂ /m ³	< 1	< 1.0	10
TBOD	g O ₂ /m ³	2.8	0.6	-
Metals (dissolved)				
Copper	g/m ³	-	0.0006	-
Zinc	g/m ³	-	0.0032	-
Nutrients				
NH ₃	g/m ³	0.030	0.0023	0.025*
NH ₄	g/m ³	8.0	0.90	5
NNN	g/m ³	-	0.40	-
DRP	g/m ³	0.79	0.46	5

*NH₃ limit applies in-stream

While most sample results generally complied with limits set by the resource consent on both sampling occasions, levels of ammoniacal nitrogen (NH₄) was above the consented limit of 5 g/m³ on 13 September 2022. The concentration of unionised ammonia was above the consent limit of 0.025 g/m³ during September 2022. It should be noted that this concentration of unionised ammonia concentration is present in the discharge and is not an instream value but a discharge value. All other parameters were within range of past results. Abatement Notice EAC-24575 issued in September 2022 requiring compliance with resource consent conditions still stands.

The results of sampling survey carried out on 4 May 2023 was compliant with the resource consent conditions. However, the cumulative rainfall measured at New Plymouth's Brooklands Zoo was 41.8 mm over the past 12 h, with 12 mm of rainfall recorded between 09:00 and 10:00 a.m. The sample was collected at 11:35 a.m. The pH and conductivity were in the lower range of what is usually measured, suggesting that the sample is more representative of the rainfall than of the site runoff.

The improvements made on-site to limit the concentration of ammonium in the discharge were completed for the June 2023 inspection but no sample was taken. Compliance will be confirmed/established in the next monitoring year. No sample was taken at that time as there was no discharge. Compliance with the resource consent conditions and the abatement notice will be re-assessed in the 2023-2024 monitoring year.

10.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with Ravensdown's conditions in resource consents or provisions in Regional Plans.

10.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 35.

Table 35 Summary of performance for Ravensdown consent 10513-1

Purpose: To discharge stormwater from a fertiliser storage site onto and into land and into the Mangaone Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practicable option to avoid, remedy or mitigate effects	Inspections and consultation with site operators	Yes
2. Catchment to be limited to a certain size	Inspections and consultation with site operators	Yes
3. Limits on chemical composition of discharge	Observation during inspections and discharge sampling	No Levels of NH ₄ -N in breach of consent conditions
4. Limit on effects in receiving water	Observation during inspections, macroinvertebrate sampling and receiving water sampling	Yes – instream effects may not be directly attributed to Ravensdown site
5. Maintain contingency plan	Document received	Yes
6. Maintain stormwater management plan	Document under review	Yes
7. Notification of changes at the site	Inspections and consultation with site operators	Yes
8. Review conditions	Next option for review in June 2026	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Improvement required
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

During the period under review, Ravensdown Fertiliser Co-operative Ltd demonstrated a level of environmental performance and compliance that required improvement. A high level of administrative performance and compliance was achieved its resource consent as defined in Appendix II.

11 Taranaki Sawmills Ltd

11.1 Site description

Taranaki Sawmills Ltd (TSM) has operated a timber treatment plant on Katere Road since 1956 (Figure 13). In 1997, an adjoining site was purchased and developed for painting and packaging, packaging componentry, and a domestic despatch yard, some of which has now been on-sold. About 30 persons are employed at the site.

Timber is treated at two plants. At one plant, timber is treated with copper, chromium and arsenic (CCA), and with boron. At the other plant, light organic solvent preservatives (LOSP) are used.



Figure 13 Aerial view of Taranaki Sawmills Katere Road site with associated sampling points

At the CCA and boron treatment plant, all chemical storage tanks and treatment vessels were historically situated outside of the buildings, within areas that were sealed and bunded for containment of spillage. Contaminated stormwater from bunded and drip pad areas was collected in sumps and recycled back through the treatment process. The CCA process was changed in February 1999 by the addition of a steam fixation step after CCA treatment, known as the CCA Dry process. This resulted in the elimination of drippage after treatment. Previously, CCA treated timber had to be left on the drip pad for seven days, now the timber only needs to be left on the drip pad for 24 hours to ensure that there is no drippage once the wood is removed from the treatment area. There is no discharge to water as a result of the CCA dry process, as blowdown from this process is recycled. During the 2002-2003 year, a roof was constructed over the drip pad, treatment vessels and chemical storage area, thus eliminating the potential for contaminants to be entrained in the stormwater from these areas.

Some timber is pre-treated by steaming to improve the penetration of the CCA solution. After each steam cycle, the vessel is cooled via an external water heat exchanger to reduce turnaround time. The sludge generated in the steamer vessel, and blowdown from the boiler, was discharged to a settling pit at a rate of about 1,000 L/day. The settled wastewater, and about 15,000 L/day of cooling water, was discharged to the Mangaone Stream via a stormwater drain. Sludge that accumulated in the pit was disposed of by a local contractor. During the 2005-2006 year, the condensate from this "steam cracking" of the timber was diverted to sewer. The discharge of cooling water to the Mangaone Stream continued until the 2008-2009

year, during which the cooling water was also diverted to trade waste. No further discharges of process/wastewater from the site to the Mangaone Stream occurred following this diversion.

In boron treatment, a vacuum is applied to improve chemical diffusion. The boron treated timber was left under tarpaulins on the drip pad for 14 days for diffusion to complete. An improvement in the boron treatment process was introduced in March 2007. Taranaki Sawmills now employ a dry treatment process using 'Framepro'. The process for 'Framepro' is that the timber is kiln dried before it is sent to the treatment plant. After treatment it dries in a shed on a drip pad until being shipped out.

A new LOSP plant was commissioned in February 1999. The treatment chemicals used in the LOSP process are a range of blends containing one or more of the following, in a white spirit solvent; 3-Iodo-2-propynyl-n-butylcarbamate (IPBC), permethrin, Propiconazole (PRCA) and Tebuconazole (TEBA) depending on end use of the timber. At the old LOSP plant, chemical storage tanks were located outside at the northern end of the site in an area that was bunded. The drippage area, which drained to a recycle sump, was also outside. At the new plant, the process is carried out entirely within a building with internal bunds, under computer control to optimize treatment and minimize chemical use. There is no wastewater discharge.

The use of tributyltin oxide at the site ceased in April 2010. Residual tributyltin and CCA have been found in the site surfaces from historical practices. This has been mapped and managed by progressively concreting the affected areas, as discussed in previous Annual/Biennial Reports.

Uncontaminated stormwater, from outside of bunded areas and from roofs, is channeled into two drains that join prior to exiting the site at Katere Road and discharging to the Mangaone Stream.

TSM holds discharge permit **3491-3** to cover discharge of cooling water and wastewater from a timber drying plant and stormwater from a timber treatment site into the Mangaone Stream in the Waiwhakahi catchment. This consent has 17 special conditions, including the standardised sampling requirements. A copy of the permit is attached in Appendix I.

11.2 Results

11.2.1 Inspections

Three routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted on 11 November 2022, 6 April and 7 June 2023.

The site was found clean and tidy. The ground drainage outlets were free of obstructions. Generally the hazardous substances were stored properly. On one inspection, it was noticed that two IBCs were stored in a semi-bunded area. They were relocated to a fully area as soon as it was pointed out.

11.2.2 Results of discharge monitoring

Historically, the primary sampling point for this site was a combined discharge point on the opposite side of Katere Road (site IND001006). However it was identified by the consent holder that this site could potentially be contaminated with stormwater from Katere Road.

Subsequently, two additional sampling sites were established (IND001068 and IND001069) to sample stormwater from TSM at the point of discharge into NPDC's stormwater network. These sites were each sampled twice during the monitoring period with the results presented in Table 36.

Monitoring of the LOSP treatment chemicals IPBC, permethrin, PRCA and TEBA was initiated in the 2010-2011 year after TSM changed to using these chemicals rather than tributyltin. Levels of these contaminants have been known to fluctuate over time with the latest results being similar to the median of historical results from TSM discharges. Concentrations of LOSP treatment chemicals in the TSM discharge were

sampled on two occasions during the year under review, and on one occasion, samples were also collected from the receiving waters of the Mangaone Stream (Table 37).

Table 36 TSM stormwater sampling results, site IND001068

Parameter	Unit	IND001068		IND001069		Consent limits
		11 Nov 2022	4 May 2023	11 Nov 2022	4 May 2023	
Temperature	°C	-	17.5	-	17.5	25
pH	pH	6.5	6.8	6.9	7.2	6.0 – 9.0
Conductivity	mS/m	1.6	2.1	4.1		-
Suspended solids	g/m ³	12	5	46	82	100
Turbidity	FNU	3.9	4.4	25	77	-
TBOD	g O ₂ /m ³	2.4	2.1	3.5	3	-
COD	g O ₂ /m ³	26	6	19		-
Metals (total)						
Arsenic	g/m ³	0.025	0.0146	0.0062	0.0080	0.24
Boron	g/m ³	0.0157	0.0165	0.0192	0.0146	3.7
Chromium	g/m ³	0.0179	0.0085	0.0048	0.0051	0.4
Copper	g/m ³	0.0138	0.0065	0.0168	0.0149	-
Tin	g/m ³	0.0022	< 0.00053	0.00162	0.0028	-
Zinc	g/m ³	0.188	0.172	0.22	0.26	-
Metals (dissolved)						
Copper	g/m ³	0.0066	0.0041	0.0057	0.0039	0.088
Zinc	g/m ³	0.153	0.161	0.157	0.125	0.64
Treatment chemicals						
Tributyltin	g/m ³	< 0.00004	-	< 0.00004	-	0.0046
Triphenyltin	g/m ³	< 0.00004	-	< 0.00004	-	-
Hydrocarbons						
C ₇ - C ₉	g/m ³	< 0.10	-	< 0.10	-	-
C ₁₀ - C ₁₄	g/m ³	< 0.2	-	< 0.2	-	-
C ₁₅ - C ₃₆	g/m ³	< 0.4	-	< 0.4	-	-
Total HC	g/m ³	< 0.7	-	< 0.7	-	15*
LOSP						
IPBC	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	-
Permethrin	g/m ³	0.0043	0.0011	0.0008	0.0006	-
PRCA	g/m ³	0.049	0.032	0.0148	0.0115	-
TEBA	g/m ³	0.038	0.027	0.0149	0.0130	-

*HC measured in place of oil & grease

Samples taken from both of the sites complied with consent conditions for all parameters. Overall, the zinc concentration in the two discharges was in the lowest range of the historical records. This decrease in zinc in the discharge can be a reflection of the changes TSM made on site to reduce the concentration in zinc in the 2021-2022 monitoring year and still in place.

11.2.3 Results of surface water monitoring

Samples were collected from the receiving waters of the Mangaone Stream below the TSM site on one occasion. The results of this sampling were used to assess the impact of the discharge from the sawmill on the stream (Table 37). Residual levels of tributyltin are frequently detected in the stream below the discharge points, and are associated with historical contamination events. No new discharges of tributyltin have occurred from the TSM site since 2011.

Table 37 Surface water sampling results below TSM discharge, site MGO000145

Parameter	Unit	4 May 2023	Consent limits
Temperature	°C	17.0	25
pH	pH	7.0	6.0 – 9.0
Conductivity	mS/m	10.3	-
Suspended solids	g/m ³	126	-
Turbidity	FNU	64	-
CBOD	g O ₂ /m ³	< 1.0	2
Metals (total)			
Arsenic	g/m ³	0.0015	-
Boron	g/m ³	0.023	-
Chromium	g/m ³	0.0030	-
Copper	g/m ³	0.0131	-
Zinc	g/m ³	0.048	-
Metals (dissolved)			
Copper	g/m ³	0.0025	-
Zinc	g/m ³	0.0059	-
LOSP			
IPBC	g/m ³	< 0.0002	-
Permethrin	g/m ³	< 0.00002	-
PRCA	g/m ³	0.00016	-
TEBA	g/m ³	0.00017	-

All consented parameters that apply to instream sites (pH, temperature, and CBOD) were within acceptable limits. PRCA and TEBA were detected in the receiving waters, at levels similar to the historical concentrations for the site downstream of TSM. Permethrin was detected in the discharge but was below the laboratory detection limit in the receiving waters. IPBC levels were below laboratory detection limits at all sites sampled.

11.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with Taranaki Sawmill's conditions in resource consents or provisions in Regional Plans.

11.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 38.

Table 38 Summary of performance for TSM consent 3491-3

Purpose: To discharge stormwater from a timber treatment site into the Mangaone Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option	Inspections and discussion with consent holder	Yes
2. Exercise of consent in accordance with application information	Inspections and discussion with consent holder	Yes
3. Limits stormwater catchment area	Site inspections	Yes
4. Concentration limits upon potential contaminants in discharge	Chemical sampling	Yes
5. Maintenance of site access	Inspections and sampling	No Stormwater drain not accessible on one occasion
6. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling, and biomonitoring	Yes
7. Limit on pH and temperature effects and filtered carbonaceous biochemical oxygen demand (CBOD) beyond mix zone	Chemical sampling of the discharge and receiving water, and recording the temperatures at the time of sampling	Yes
8. Maintain and adhere to contingency plan	Reviewed plan received 2018	Yes
9. Maintain and adhere to management plan	Reviewed plan received 2018	Yes
10. Notification of changes at the site	Inspection and consultation with site operators	Yes
11. Provision for review re effects	Next option for review in June 2026	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

During the period under review, Taranaki Sawmills Ltd demonstrated a high level of environmental performance and administrative performance and compliance with its resource consent as defined in Appendix II.

12 Technix Group Ltd

12.1 Site description

The engineering complex of Technix Group Ltd (Technix) is the largest industrial site along the lower Waiwhakaiho River (Figure 14). Situated on the true right bank of the river immediately above its confluence with the Mangaone Stream, the site is bounded by Dialog Fitzroy sites, Rifle Range Road, State Highway 3, and the Mangaone Stream. The development comprises several building complexes, roading and drainage systems.



Figure 14 Aerial view of Technix site, with the yard associated to consent 0291-3 in yellow and the yard associated to consent 9982-1 in red

The stormwater network under the Technix site feed into Dialog Fitzroy site before being discharged at outlet STW001021 in the Waiwhakaiho River. The northern area of the site is primarily used as a storage yard and was leased to Dialog Fitzroy for most of the monitoring year. However, consent 9982-1 associated with this yard was transferred to Dialog Fitzroy in June 2023, at the end of the monitoring year. Any stormwater collected in this area is discharged into the Mangaone Stream, via a 375 mm concrete stormwater pipe, STW001154.

During the 2022-2023 monitoring year, Technix hold consents **9982-1** and **0291-3** to discharge stormwater from an industrial site into the Waiwhakaiho River and Mangaone Stream. All consents have the standard special conditions as set out in section 1.2. Consent **0291-3** also has a condition prohibiting discharges from the truck wash to the stormwater network. Copies of each of the consents are attached in Appendix I.

12.2 Results

12.2.1 Inspections

Three routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted on 15 July 2022, 13 April and 29 June 2023.

All inspections found the site to be clean and tidy with no evidence of spills. There was no odour or discharge of dust off site. At the beginning of the monitoring year, demolishing activity was undertaken on-site (or nearby, area covered by consent 9982 by Vickers Road) to prepare the site for sell). During that time, some area was unsealed with exposed soil. It was discussed that the stormwater entry drains needed to be protected in this area, to limit the discharge of suspended solids. The northern part of the site is also unsealed with the soil exposed. When there was a discharge to the Mangaone Stream, it was noted that the discharge was turbid, but there was no adverse effect observed downstream of the discharge or in the surrounding environment.

An on-site meeting was conducted with representatives of Dialog Fitzroy, Technix and the Council to discuss the occupation of the northern site of Technix (consent 9982-1). Dialog Fitzroy occupied the northern site with the agreement with Technix for some time but no consent was transferred. However, Technix was held accountable for the discharge quality non-compliance on 4 May 2023 as it was still the consent holder for that site. No further action was undertaken by the Council as the consent was transferred. However, this northern part will still be closely monitored.

12.2.2 Results of discharge monitoring

There are two routine sampling points for monitoring of stormwater discharges from Technix's site. One is in relation to the Waiwhakaiho River, and the other is in relation to the Mangaone Stream. Samples were collected from each site on one occasion during the period under review. The results from discharge STW001021 are reported in section 4.2.2, and they were compliant with the resource consent conditions.

The discharge to Mangaone Stream contains stormwater from the north eastern end of the Technix site (consent 9982-1). The results of sampling of this area are shown in Table 39.

Table 39 Technix stormwater discharge sampling results, site STW001154

Parameter	Unit	4 May 2023	Consent limits
Temperature	°C	18.0	-
pH	pH	8.9	6.0 – 9.0
Conductivity	mS/m	4.6	-
Suspended solids	g/m ³	390	100
Total hydrocarbons	g/m ³	< 0.7	15*
Nutrients			
NH ₃	g/m ³	0.004	-
NH ₄	g/m ³	0.018	-
DRP	g/m ³	0.061	-

**Hydrocarbons measured in place of oil & grease*

Levels of hydrocarbons and pH were found to be compliant with consent conditions. Suspended solids concentration exceeded the consent limit. After discussion with Technix, it appeared that Dialog Fitzroy was

already occupying the site but was not the consent holder yet. There were no effect noted in Mangaone Stream associated with the discharges for the period under review.

12.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with Technix's conditions in resource consents or provisions in Regional Plans.

12.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 40 and Table 41.

Table 40 Summary of performance for Technix consent 0291-3

Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option to prevent or minimise effects	Inspections	Yes
2. Catchment area not to exceed 2.2 ha	Inspections	Yes
3. No discharge to stormwater from truck wash after 31 December 2015	Inspections and liaison with consent holder	Yes
4. Concentration limits upon potential contaminants in discharge	Chemical sampling	Yes
5. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling and biomonitoring	Yes
6. Prepare and maintain Contingency Plan	Up to date as of August 2023	Yes
7. Preparation of Stormwater Management Plan	Up to date as of August 2023	Yes
8. Consent holder to notify Council of significant changes to processes or operations	Inspections and liaison with consent holder	Yes
9. Provision for review of consent	Next option for review in June 2026	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 41 Summary of performance for Technix consent 9982-1

Purpose: To discharge stormwater from an industrial site into the Mangaone Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option to prevent or minimise adverse effects	Inspections	Yes
2. Catchment area not to exceed 1.3 ha	Inspections	Yes

Purpose: To discharge stormwater from an industrial site into the Mangaone Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. Concentration limits upon potential contaminants in discharge	Sampling	No Suspended solids exceeded consent limit
4. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling and biomonitoring	Yes
5. Prepare and maintain Contingency Plan	Up to date as of April 2018	Yes
6. Preparation of Stormwater Management Plan	Up to date as of April 2018	Yes
7. Consent holder to notify Council of significant changes to processes or operations	Liaison with consent holder	Yes
8. Provision for review of consent	Next option for review in June 2026	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

During the period under review, Technix Group Ltd demonstrated a good level of environmental performance and high level of administrative performance and compliance with their resource consents as defined in Appendix II.

13 Urban Aspect Limited

13.1 Site description

Urban Aspect Limited (Urban Aspect, previously Freight and Bulk Transport Holdings Ltd) operate a truck depot that services the rural sector from a 1.77 ha site on Katere Road (Figure 15). This site was previously monitored under the annual inspection round of truck washes, and was incorporated into the Lower Waiwhakaiho Catchment Monitoring Programme at the start of the 2009-2010 year.



Figure 15 Aerial view of Urban Aspect site with associated sampling point

Urban Aspect stores, blends and distributes dry stock feeds such as crushed meal, palm kernel and grains. Lime, fertiliser and gravel used for farm races are also stored at the site. The lime, stock feeds and fertilisers are stored in the sheds at the northern end of the site; only the gravel is stored outside in the stormwater catchment. Trucks are washed at the site and the wash water was historically (until expiry of consent 0241) discharged to soak holes. During the 2018-2019 monitoring period, a truck wash was installed that recycles wash water and discharges contaminants to trade waste.

Urban Aspect holds consent **10008-1** to discharge stormwater onto and into land and into the Mangaone Stream. This consent contains nine standard special conditions set out in section 1.2. A copy of the consent is attached to this report in Appendix I.

13.2 Results

13.2.1 Inspections

Three routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted on 5 September 2022, 6 April and 28 June 2023.

The site was generally found clean, tidy and well maintained. The stormwater drains were unobstructed. When the truck wash was in use, the water was directed to trade waste. The sediment ponds on-site appeared well maintained with no overflow beyond this area. The site was found compliant on the three inspections.

13.2.2 Results of discharge monitoring

Stormwater discharges from Urban Aspect's site are collected from a roadside stormwater drain located on the western driveway (site STW001146). This site was sampled on two occasions during the period under review. The results are given in Table 42.

Table 42 Urban Aspect stormwater sampling results, site STW001146

Parameter	Unit	5 September 2022	4 May 2023	Consent limits
Temperature	°C	10.8	17.4	-
pH	pH	7.2	7.3	6.0 – 9.0
Conductivity	mS/m	4.7	8.4	-
Suspended solids	g/m ³	29	131	100
Turbidity	NTU	-	13.7	-
CBOD	g O ₂ /m ³	1.2	9.0	15
TBOD	g O ₂ /m ³	1.3	-	-
Nutrients				
NH ₃	g/m ³	0.00098	0.0056	0.025*
NH ₄	g/m ³	0.24	0.80	-
DRP	g/m ³	0.21	0.54	-

*NH₃ limits apply to receiving waters downstream of the discharge

The results were generally compliant with consent conditions, except on 4 May 2023 when the suspended solids concentration exceeded the consent limit. The sampling was undertaken during a heavy rain event. It was observed that large runoff from a site above was going on the surrounding sites, including Urban Aspect's. Therefore, this was not considered a non-compliance.

13.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with FBT's conditions in resource consents or provisions in Regional Plans.

13.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 43.

Table 43 Summary of performance for Urban Aspect consent 10008-1

Purpose: To discharge stormwater onto and into land and into the Mangaone Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Inspection and programme supervision	Yes
2. Stormwater catchment not to exceed 1.77 ha	Inspection	Yes
3. Limits on contaminants in discharge	Sampling	Yes
4. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling and biomonitoring	Yes
5. Maintain and adhere to a contingency plan	Inspection and programme supervision	Yes
6. Maintain and adhere to a stormwater plan	Updated plan provided May 2019	Yes
7. Notify the Council of changes at the site	Inspection and programme supervision	N/A
8. Lapse condition	Consent exercised	N/A
9. Review condition	Option for review in June 2026	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

During the period under review, Urban Aspect Limited demonstrated a high level of environmental and administrative performance and compliance with their resource consent as defined in Appendix II.

14 Waste Management NZ Ltd

14.1 Site description

Waste Management NZ Ltd (Waste Management) operate a refuse transfer depot on Katere Road, New Plymouth (Figure 16). Activities on the site include the receipt and temporary storage of general refuse (non-hazardous solid waste). The site does not use or store any hazardous substances. Refuse is deposited onto a transfer pad on site by truck or from smaller bins. Sorting takes place into recyclables-glass cardboard and plastic. Most refuse is loaded onto a truck and driven to a landfill near Marton.

The refuse storage area is usually cleared at the commencement of each day's activities, but on occasions there is excess refuse left within the storage area over night. This is the first refuse to be loaded the next morning. Empty used bins are stored on the wash pad which is connected to NPDC trade waste system. These bins are then washed with a water blaster and the runoff is directed to the trade waste system. Washed bins are then generally moved to the yard where they are stored until required in the future.



Figure 16 Aerial view of Waste Management site and sampling location

Waste Management holds consent **10430-1** to discharge stormwater from a waste depot into an unnamed tributary of the Mangaone Stream. This consent contains nine conditions, eight of which are the standard special conditions as set out in section 1.2. Condition four sets out the discharge contaminant limits, including carbonaceous biochemical oxygen demand. A copy of the permit is attached to this report in Appendix I.

14.2 Results

14.2.1 Inspections

Two routine compliance monitoring inspections were conducted at the site during the monitoring period to assess compliance with resource consent conditions. These inspections were conducted on 19 April and 18 June 2023.

At the time of the inspections, the site was found well maintained, clean and tidy. The general housekeeping routine consists of cleaning/gathering any blown away material, and focusing on keeping the yard free from dust and debris. The stormwater drainage was unobstructed. The runoff water from the wash down area is directed to the trade waste system, as well as the runoff from the dump pad. There was no evidence of spill and the hazardous chemicals were appropriately stored and contained. The site was found compliant at the time of the inspections.

14.2.2 Results of discharge monitoring

Sampling of the Waste Management stormwater discharge was undertaken two occasions at site STW002098. The results are given in Table 44.

Table 44 Waste Management stormwater sampling results, site STW002098

Parameter	Unit	19 April 2023	4 May 2023	Consent limits
Temperature	°C	18.9	17.2	-
pH	pH	6.9	6.8	6.0 – 9.0
Conductivity	mS/m	9.8	2.8	-
Suspended solids	g/m ³	38	15	-
Turbidity	NTU/FNU	38	8.7	-
CBOD	g O ₂ /m ³	4.2	2.7	20*
TBOD	g O ₂ /m ³	5.8	2.5	-
Total hydrocarbons	g/m ³	< 0.7	1.9	15*
Nutrients				
NH ₃	g/m ³	0.00022	0.00047	0.025
NH ₄	g/m ³	0.068	0.21	-
DRP	g/m ³	0.006	0.007	-

*CBOD limit of 2 g/m³ applies in-stream. Hydrocarbons measured in place of oil & grease

The samples collected complied with the carbonaceous biochemical oxygen demand, oil and grease, and pH limits set by the consent, and were within historical ranges for the site. The total hydrocarbon concentration in the discharge was higher than usually measured but still within the consent limits.

14.3 Investigations, interventions, and incidents

In the 2022-2023 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with Waste Management's conditions in resource consents or provisions in Regional Plans.

14.4 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 45.

Table 45 Summary of performance for Waste Management consent 10430-1

Purpose: <i>To discharge stormwater from a waste depot into an unnamed tributary of the Mangaone Stream</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practicable option to avoid, remedy or mitigate effects	Inspections and consultation with site operators	Yes
2. Leachate to be diverted from stormwater by certain date	Inspections and consultation with site operators	Yes
3. Limit on catchment size	Inspections and consultation with site operators	Yes
4. Limits on chemical composition of discharge	Observation during inspections and discharge sampling	Yes
5. Limit on effects in receiving water	Observation during inspections and sampling	Yes
6. Maintain contingency plan	Document received in July 2023	Yes
7. Operate site in accordance with Management Plan	Document received in July 2023	Yes
8. Notification of changes at the site	Inspections and consultation with site operators	Yes
9. Review conditions	June 23: it is considered that there are no grounds that require a review to be pursued	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

During the period under review, Waste Management NZ Ltd demonstrated a high level of environmental performance and high level of administrative performance and compliance with its resource consent as defined in Appendix II.

15 Surface water quality

15.1 Chemical sampling surveys

The results of chemical analysis of the receiving water for the period under review given in the subsections below. Refer to section 1.3.4 for the sampling strategy. Monitoring locations are shown in Figure 1.

15.1.1 Waiwhakaiho River wet weather survey

The lower Waiwhakaiho River was sampled at three points (see below) under wet weather discharge monitoring conditions in May 2023, with results provided in Table 46.

Merrilands Domain (site code WKH000800): At the riffle just upstream of the swimming area in the Waiwhakaiho River at the Merrilands Domain, about 5.4 km from the coast. This is the upstream, or control site with respect to NPDC's Burton Street stormwater discharge.

Constance Street (site code WKH000920): At the first bend below Devon Road bridge, about 2.6 km from the river mouth. This is the upstream, or control site, with respect to monitoring discharges to the lower Waiwhakaiho River from New Plymouth industrial area including the groundwater discharge from the Bewley Road landfill.

Above Mangaone (site code WKH000942): Immediately above the confluence with the Mangaone Stream and any tidal saline influence, beside the eastern bank opposite Lake Rotomanu, about 1,300 m from the river mouth. This is the downstream monitoring site for discharges from Firth (consent 0392-4), Dialog Fitzroy (consents 0021-4, 9853-2, and 9981-1), and the Technix operations along Rifle Range Road (consent 0291-3).

Table 46 Results of wet weather monitoring of lower Waiwhakaiho River, 19 May 2023

Parameters	Units	WKH000800	WKH000920	WKH000942
Temperature	°C	12.5	12.2	12.8
pH	pH	7.7	7.7	7.6
Conductivity	mS/m	12.0	12.0	12.1
Suspended solids	g/m ³	< 3	< 3	< 3
Turbidity	FNU	0.38	0.54	1.60
Fluoride	g/m ³	-	< 0.05	-
Nutrients				
NH ₃	g/m ³	< 0.00011	< 0.00011	0.00037
NH ₄	g/m ³	< 0.010	< 0.010	0.038
NNN	g/m ³	-	0.41	0.42
DRP	g/m ³	0.009	0.011	0.011
Hydrocarbons				
C ₇ - C ₉	g/m ³	-	< 0.10	-
C ₁₀ - C ₁₄	g/m ³	-	< 0.2	-
C ₁₅ - C ₃₆	g/m ³	-	< 0.4	-
Total HC	g/m ³	-	< 0.7	-

The nutrient concentrations were slightly higher downstream of the river compared to the upstream concentrations. Concentrations of ammoniacal nitrogen (NH_4) and unionised ammonia (NH_3) were below the respective ANZECC trigger guideline of 0.9 g/m^3 and the RFWP guideline of 0.025 g/m^3 . Instream levels of DRP downstream of the industrial area were found to be below the $0.03\text{-}0.15 \text{ g/m}^3$ range that may support algal growth. Overall, there was no discernible trend of increasing contaminant concentrations between the up and downstream receiving waters.

15.1.2 Mangaone Stream wet weather survey

The Mangaone Stream was sampled at five points (see below) under wet weather discharge monitoring conditions in May 2023, with results provided in Table 47.

Egmont Road (site code MGO000050): the uppermost site at Egmont Road Bridge.

Downstream of NPDC mid Katere Road (site code MGO000075): a site established in 2007 approximately 10 m downstream of the NPDC mid Katere Road stormwater discharge. This site also acts as an upstream "control site" for TSM's timber treatment site.

Above old Ravensdown (site code MGO000148): a site established in 1996 immediately above the main stormwater drain of the Devon 662 (old Ravensdown) depot (and also above the confluence of the Mangamiro Stream). This site was primarily established to enable differentiation of the influence of major tributaries below Egmont Road, particularly the Puremu and Manganaha Streams which flow through Colson Road landfill, from that of discharges from the Devon 662 site.

Katere Road bridge (site code MGO000153): below the discharge from Devon 662 site, and at the end of the mixing zone specified in the company's consent 3865-4.1.

Rifle Range Road (site code MGO000190): the bottom site at the Rifle Range Road Bridge, immediately above the Waiwhakaiho confluence and about 50 m below the discharge point of Downer's site.

Table 47 Results of wet weather monitoring of Mangaone Stream, 4 May 2023

Parameter	Unit	MGO000050	MGO000075	MGO000148	MGO000153	MGO000190
Temperature	°C	16.9	16.9	17.2	17.3	17.2
pH	pH	6.9	7.0	7.0	6.9	6.9
Conductivity	mS/m	10.4	10.4	7.7	7.5	8.4
Suspended solids	g/m^3	110	103	270	240	220
Turbidity	FNU	55	52	117	112	104
CBOD (dissolved)	g/m^3	-	1.1	1.2	-	1.5
Metals (dissolved)						
Copper	g/m^3	0.0025	0.0024	0.0030	-	0.0036
Zinc	g/m^3	0.0034	0.0052	0.0072	-	0.0061
Nutrients						
NH_3	g/m^3	-	0.00049	-	0.00046	0.00035
NH_4	g/m^3	-	0.155	-	0.197	0.151
NNN	g/m^3	-	-	0.48	-	-
DRP	g/m^3	-	0.012	0.012	0.013	0.010

Nutrient levels were below the ANZECC trigger guideline of 0.9 g/m^3 (NH_4), the RFWP guideline of 0.025 g/m^3 (NH_3) and nuisance algal growth $0.03\text{-}0.15 \text{ g/m}^3$ (DRP) during sampling in May 2023. Nutrient

levels did show an increase, by around two fold, between the up-gradient site MGO000075 and the down-gradient site MGO000153. This suggests there is some nutrient input to the Mangaone Stream from local activities in the area.

CBOD concentrations (where measured) during the monitoring year were also found to be low and within RFWP guideline limits (2 g/m³).

Metal and metalloid concentrations are monitored in the Mangaone Stream to determine what, if any, effects may be occurring due to the discharges from TSM and other industrial discharges. Sources of these contaminants include (to varying extents), the industrial sites and other non-point sources such as run-off from roads.

Low level analyses for zinc and copper were also performed on samples taken at the Egmont Road site (MGO000050) to monitor the effects of stormwater discharged upstream of the industries monitored under this programme. This site is also monitored for McKechnie Aluminium Solutions Ltd as part of their compliance monitoring programme as historically, copper and brass were processed at this site. There was a marginal difference in copper concentrations between the up-gradient and down-gradient sites sampled in May 2023. And while levels of zinc had increased by two times between sites located in the upper and mid catchment, and at the down-gradient site MGO000190. Overall, the concentration of zinc in the Mangaone Stream was low.

15.2 Freshwater biomonitoring

15.2.1 Macroinvertebrate surveys

The Council collected streambed macroinvertebrates at five sites in the Mangaone Stream and three sites in the Waiwhakaiho River on 8 December 2022 and 9 March 2023, to assess whether discharges from the Lower Waiwhakaiho Industrial area had had any adverse effects on the macroinvertebrate communities of these streams (Figure 17). Macroinvertebrates were identified and the number of different types of taxa counted (taxa richness), and MCI and SQMCI scores were calculated for each site.

The MCI is a measure of the overall sensitivity of the macroinvertebrate community to the effects of nutrient pollution in streams. It is based on the presence/absence of taxa with varying degrees of sensitivity to pollution. The SQMCI takes into account taxa abundance as well as sensitivity to pollution, and may reveal more subtle changes in communities. Significant differences in either the MCI or the SQMCI between sites indicate the degree of adverse effects (if any) of the discharges being monitored and enable the overall health of the macroinvertebrate communities to be determined.

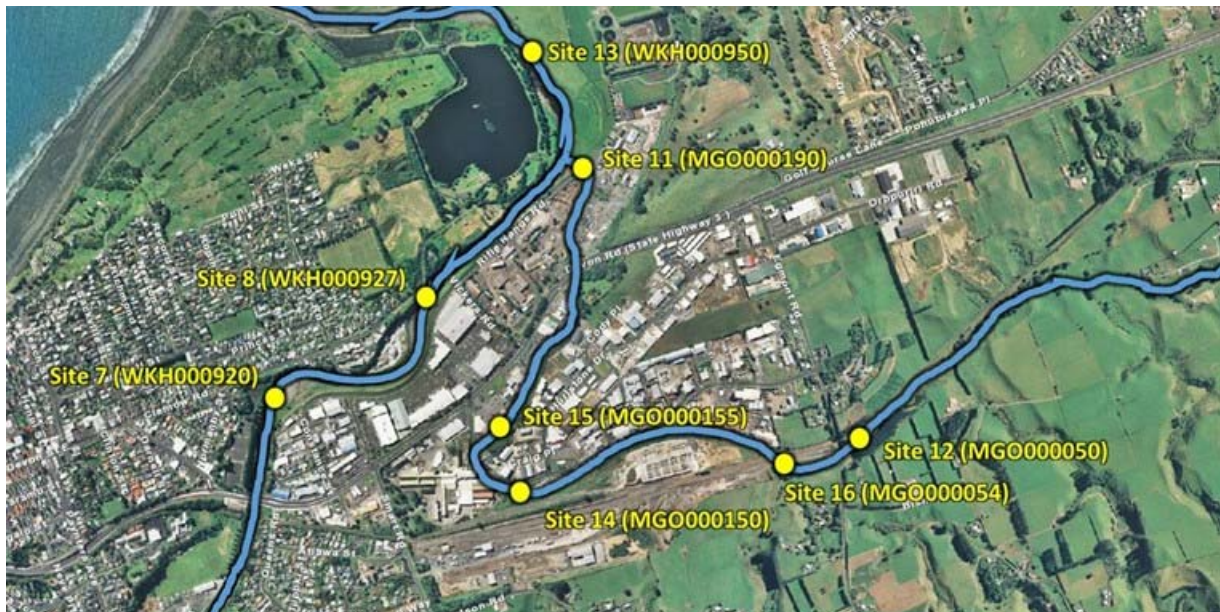


Figure 17 Biomonitoring sites in the Lower Waiwhakaiho Catchment

15.2.1.1 Macroinvertebrate survey 8 December 2022

Taxa richness is the most robust index when ascertaining whether a macroinvertebrate community has been exposed to toxic discharges. The current survey results of the Waiwhakaiho River gave no indication of a toxic discharge, which would dramatically lower taxa richness. Taxa richness was similar between sites 7, 8 and 13 in the Waiwhakaiho River and ranged between 15 to 18 taxa.

MCI scores at sites 7 and 8 in the Waiwhakaiho River were reflective of 'good' macroinvertebrate community health, while site 13 recorded 'fair' health. Site 7 and site 8 recorded MCI scores that were significantly higher than their respective historical medians, while the MCI score at site 13 was similar to the historical median. The lowest MCI recorded at site 13 was likely the result of a deterioration in preceding water quality related to the upstream Mangaone Stream confluence.

SQMCI scores in the Waiwhakaiho River at sites 7, 8 and 13 were reflective of 'good', 'fair' and 'poor' health, and represented a significant decline in macroinvertebrate community health in a downstream direction. The decline recorded at downstream site 13 is likely attributed to a decline in water quality below the Mangaone Stream confluence, while the decline between sites 7 and 8 may be due to the industrial discharges. However, it may also be related to subtle habitat differences between these two sites.

Taxa richness was 'low' to 'moderate' in the Mangaone Stream ranging from 7 to 14 taxa. 'Control' site 12 recorded 11 taxa which was lower than the median for the site and the previous survey richness. Taxa richness increased slightly at site 16 (14 taxa), then decreased at the three downstream sites, with sites 14, 15 and 11 recording a low 7, 10 and 8 taxa, respectively. These results suggest that a deleterious discharge has possibly entered the Mangaone Stream between sites 16 and 14 contributing to lowered taxa richness at the three downstream sites.

MCI scores in the Mangaone Stream were reflective of 'very poor' to 'fair' macroinvertebrate community health. Both 'control' site 12 and furthestmost downstream site 11 recorded MCI scores reflective of 'very poor' health. The MCI of 58 units recorded at site 12 was the lowest score recorded for the site to date, and has likely been impacted by poor preceding water quality related to activities upstream of this site. The 'very poor' MCI score recorded at site 11 was within the range of what has previously been recorded. However, MCI score at site 11 was lower than that recorded in the previous survey and was significantly lower than the median for the site. It also was significantly lower than that recorded at nearby upstream site 15 (by 25 MCI units). This decrease may in part be due to chronic pollution from historic sites but may also indicate

that a more recent deleterious discharge had entered the stream between site 15 and site 11. Site 15 recorded the highest MCI score in the Mangaone Stream, reflective of 'fair' health, while sites 16 and 14 recorded 'poor' health.

SQMCI scores ranged between 2.2 and 3.8 units and increased in a downstream direction. 'Control' site 12 recorded an SQMCI score reflective of 'very poor' health while the downstream scores were reflective of 'poor' health. Similarly to the MCI score, the SQMCI at 'control' site 12 was the lowest recorded for the site to date and indicative of poor upstream preceding water quality. Site 16, the next site downstream of the 'control' site also recorded an SQMCI score significantly lower than the median for the site and previous survey score, although it was within the range of what has been recorded previously at this site. Improvements were recorded in a downstream direction, with downstream sites 15 and 11 recording SQMCI scores significantly higher than their respective site medians. These scores were also higher than those recorded previously. For site 11 was the highest SQMCI recorded for the site to date.

Overall, it is apparent that the Mangaone Stream 'control' site in the current survey has likely been impacted by upstream activities that have resulted in poor preceding water quality. This has compromised the ability for this survey to detect any significant adverse effects on the macroinvertebrate communities of the Mangaone Stream related to the Lower Waiwhakaiho industrial discharges. Improvements to SQMCI were recorded in a downstream direction which suggests these upstream impacts were somewhat localised. Taxa richness was generally lower downstream of site 16 and MCI scores decreased significantly between sites 15 and 11 which was indicative of likely impacts related to discharges in the industrial area. In addition, the MCI score at site 13 in the Waiwhakaiho River, below the confluence with the Mangaone Stream, was significantly lower than that recorded upstream at site 8, which has provided further evidence of a reduction in macroinvertebrate community health likely related to the poor preceding water quality in the Mangaone Stream. The reduced macroinvertebrate community health recorded in the lower reaches of the Mangaone Stream and below the Waiwhakaiho confluence may in part be due to chronic pollution from historic sites but may also point to more recent deleterious discharges entering the Mangaone Stream.

It is recommended that an additional 'control' site be included in future biomonitoring surveys near the SH3 bridge on the Waiwhakaiho River. Currently there is no true upstream site above all of the Waiwhakaiho industrial discharges, therefore it is difficult to properly assess the potential impacts the discharges may have on macroinvertebrate communities.

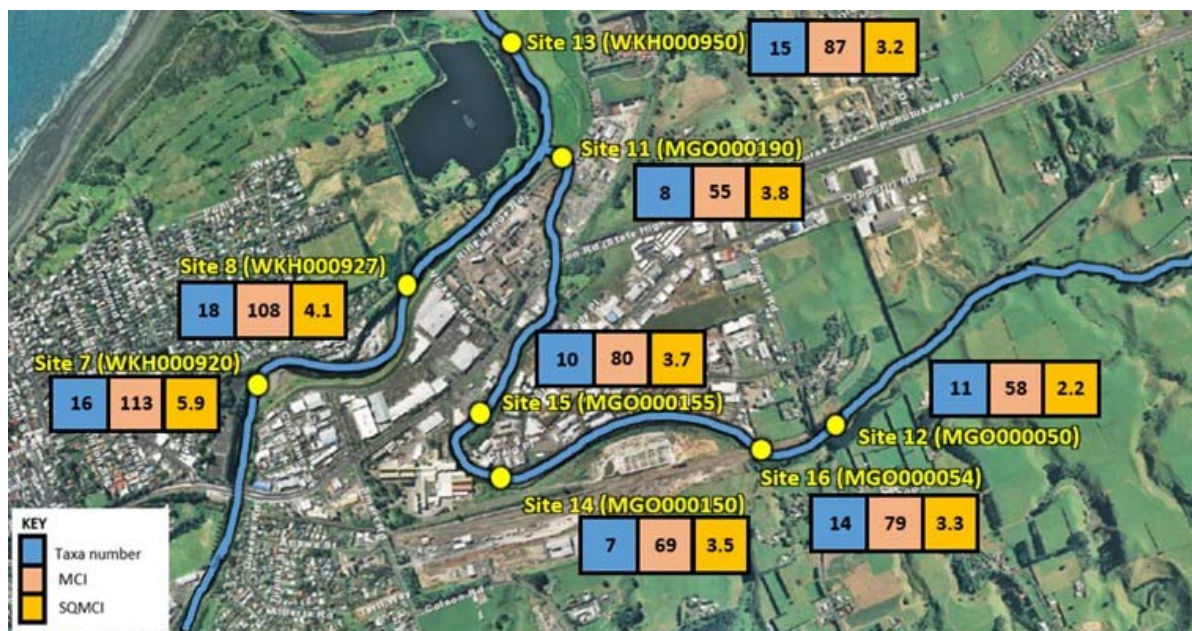


Figure 18 Biomonitoring sites in the Waiwhakaiho River Catchment with taxa number, MCI scores and SQMCI scores for each site, 8 December 2022

15.2.1.2 Macroinvertebrate survey 9 March 2023

The taxonomic richness at the Waiwhakaiho sites was 12, 19, and 17 taxa, at sites 7, 8, and 13, respectively. Taxa richness at site 7 differed from what recorded at the other sites and from the historical median. The current survey had seven fewer taxa compared to the historical median. In addition, site 7 had a difference of five taxa compared to the downstream site 8. There is a consent held by NPDC (5163-2) directly upstream from site 7 which has the potential to impact on the macroinvertebrate communities of the Waiwhakaiho River. However, it is important to note that although increased taxonomic richness increases food web stabilisation, it is not always indicative of "improved" water quality; an increase in taxonomic richness can arise from increased nutrients, but a decrease in taxonomic richness can arise from a toxic discharge.

The MCI scores in the Waiwhakaiho River provides further evidence that site 7 has declined macroinvertebrate health, as the MCI value at site 7 was significantly lower than at both sites 8 and 13. Furthermore, the MCI at site 7 in the current survey was significantly lower than both the previous survey (with a difference of 43) and the historical median (difference of 19).

The SQMCI at site 7 was significantly lower than in the previous survey. These changes suggest that the discharge upstream from site 7 (NPDC consent 5163-2) has potentially had a negative impact on the macroinvertebrate communities. It is recommended that an additional site directly upstream from NPDC consent 5163-2 be instated to act as a 'control site' to interpret potential effects with more certainty.

The taxonomic richness in the Mangaone Stream sites varied between 10 and 13. Significant reductions of taxa richness were recorded at sites 12 and 16 when compared to the historical medians (differences of seven and six taxa, respectively). Changes in taxonomic richness can arise from different events, as mentioned above whilst discussing the Waiwhakaiho sites. To help reach hypotheses about the causes of possible changes in taxonomic richness it is important to look at the other metrics (MCI and SQMCI), as well as other factors such as environmental conditions at the time of the survey. There were no significant changes of SQMCI between the current and historical medians for sites 12 or 16. For MCI, there were no significant changes between the current survey and historical median at site 16. The MCI at 'control' site 12 was 11 units lower than the historical median for the site. In comparison to the previous survey a significant increase to both MCI and SQMCI was recorded at site 12. In the previous survey, it was suspected that activities upstream of the 'control' site had adversely impacted the macroinvertebrate communities at this site, so the current survey results reflect a recovery from the previous survey.

For the other sites in the Mangaone Stream, the MCI score at site 14 was significantly lower than at sites 12 and 16. It was due to the absence of several 'sensitive' taxa at site 14 that were recorded as rarities at the upstream sites. Furthermore, site 14 had a significant reduction in MCI in the current survey compared to both the historical median and the previous survey. These results suggest that there is one or multiple discharge(s) occurring between site 16 and site 14 that have negatively impacted upon macroinvertebrate community health. The discharges that are creating these impacts may be one or a combination of: Enviro NZ (10109-1), NPDC (1275-3), Taranaki Sawmills (3491-3.0), Urban Aspect (10008-1), and/or Waste Management NZ (10430-1). Site 16 also had a significantly higher MCI than sites 15 and 11 (both had a difference of 14). This may be a continuation of the effects of the discharges between sites 16 and 14, with the possibility that the additional discharges are contributing to effects. To confirm that the discharges are causing these effects, more sampling, both biological and physicochemical, needs to be completed. It is also important to note that both sites 12 and 16 have a significantly higher historical median for MCI than sites 14, 15, and 11. This indicates that the above-mentioned discharges occurring between sites 14 and 16 may have ongoing effects as well as current effects.

The SQMCI score at site 12 was significantly higher than the SQMCI scores recorded at the downstream sites 16, 14, and 11. There were no significant differences in SQMCI between any of the downstream sites 16, 14, 15 and 11. 'Control' site 12 recorded an SQMCI significantly higher than that recorded by the previous survey, but similar to the historical median for the site. The remaining Mangaone Stream sites

recorded SQMCI scores similar to those recorded previously, with all sites recording scores higher than historic medians. Only site 16 recorded a lower score by 0.7 unit. The higher SQMCI score recorded at site 12 can predominantly be attributed to the higher abundance of three "moderately sensitive" taxa recorded compared to the downstream sites.

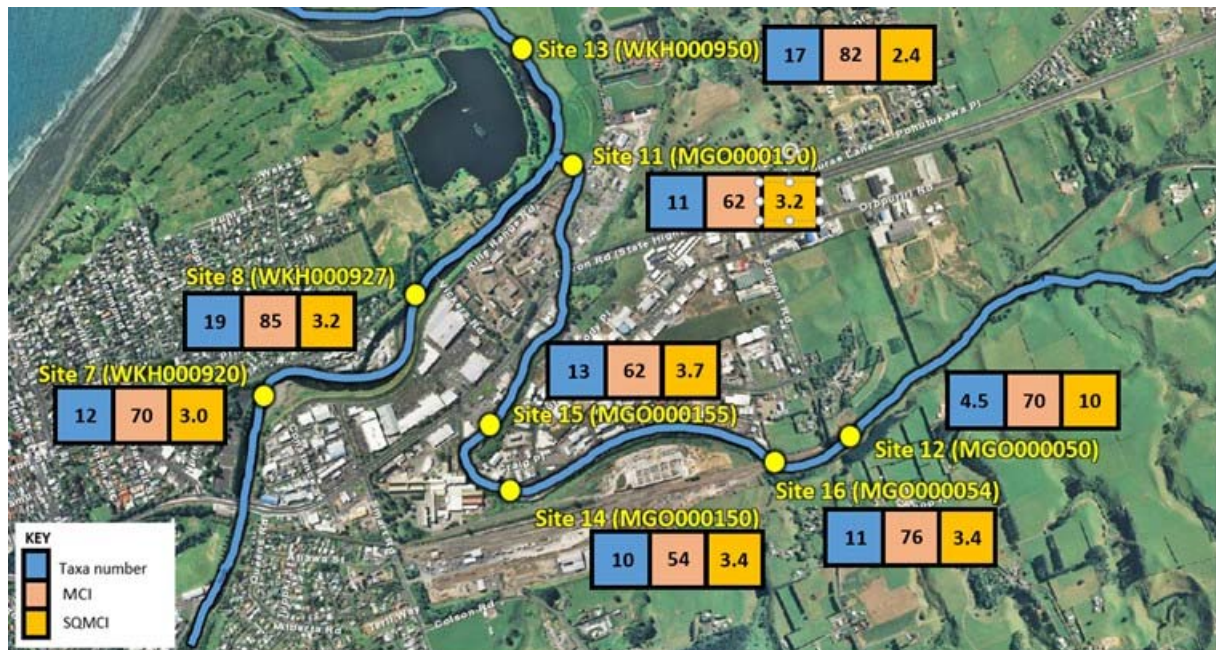


Figure 19 Biomonitoring sites in the Waiwhakaiho River Catchment with taxa number, MCI scores and SQMCI scores for each site, 9 March 2023

Copies of biomonitoring reports for this site are available from the Council upon request.

16 Discussion

16.1 Discussion of site performance

A total of 32 site visits were made to consent holders in the Lower Waiwhakaiho Catchment during the monitoring year under review.

In general, sites were found to be relatively clean and well-maintained. General housekeeping, site sweeping, windblown refuse, drain cleaning and sediment controls were the most frequently mentioned areas requiring attention as noted by Inspecting Officers. Staff onsite were generally compliant and carried out required works in appropriate timeframes. Spills, sheens, and leaks noted onsite were dealt with at the time of each visit, and multiple consent holders undertook significant upgrades and/or repairs to equipment and plant on each site as required.

Allied Concrete was issued an abatement notice for a non-compliance in regards to total suspended solids concentration. The site was found non-compliant on two occasions during the monitoring year under review. Allied Concrete made site modifications to improve the stormwater drainage. Compliance with the resource consent and the abatement notice will be assessed in the next monitoring year.

The environmental monitoring at Devon 662 indicates that the site is still leaching fertiliser residue into groundwater and that there may be some effects noted on macroinvertebrate communities in the Mangaone Stream. These results are partially-attributed to ongoing site remediation works, which are expected to be transient in nature and followed by longer-term improvements to environmental conditions.

Ravensdown was issued an abatement notice due to high levels of ammoniacal nitrogen in their discharge. Site improvements were done and compliance with the resource consent and the abatement notice will be assessed in the next monitoring year.

The site performance for half of the consent holders during the year was of an acceptable standard. No incident was recorded for this catchment over the 12-month monitoring period and three abatement notices were issued.

16.2 Environmental effects of exercise of consents

Council water quality surveys of both the Mangaone Stream and the lower Waiwhakaiho River showed that the concentrations of contaminants were generally relatively stable throughout the length of the catchment. The primary contaminants of concern were metals and metalloids, nutrients (nitrogen and phosphorus), sulphates, suspended sediment, and both chemical and biological oxygen demand. Of these, the nutrient values and zinc levels showed slight increases between upstream and downstream sites in the Mangaone Stream. The source of these slight increases is well discussed in previous monitoring reports.

Metals and metalloid concentrations fluctuated throughout the catchment, and in-stream values were closely related to proximity to the source (site stormwater discharges). All results for the period under review were within ANZECC and RFWP guidelines.

Suspended solids were the most frequently found contaminant of concern in site stormwater discharges. Samples collected from surface water sites, however, did not show any significant visual or chemical effects related to these discharges, indicating they were not having any measureable impact on the waterways.

All other contaminants in both surface and groundwater were generally within consented limits and New Zealand Drinking Water Standards guidelines. The exception of pH levels and sulphate concentrations in two groundwater bores at the Devon 662 site. However, results were within the expected range for these contaminants at this site.

The results from macroinvertebrate surveys indicate that discharges in the Waiwhakaiho industrial area have caused adverse impacts on the macroinvertebrate communities in both the Waiwhakaiho River and the Mangaone Stream. On the Waiwhakaiho River the changes in taxonomic richness, MCI, and SQMCI suggest that NPDC consent 5163-2 may have resulted in impacts at site 7. However, to help ensure these are interpreted with more accuracy, it is recommended an additional site be instated directly upstream from NPDC consent 5163-2 to act as a “control” site. In the Mangaone Stream, there is evidence of discharge(s) between sites 14 and 16 that have resulted in significant impacts.

16.3 Evaluation of performance

Tabular summaries of each consent holders’ compliance record for the period under review are set out in their individual sections of this report.

16.4 Exercise of option to review consent

Resource consents **3865-4.1** and **10430-1** provides for an optional review of the consent in June 2023. Condition 11 allows the Council to review the consent, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued.

17 Recommendations

17.1 Recommendations from the 2021-2022 Annual Report

In the 2021-2022 Annual Report, it was recommended:

1. THAT in monitoring of consented activities at AML Limited in the 2022-2023 year continue at the same level as in 2021-2022.
2. THAT AML /Allied Concrete investigates and mitigates the source of suspended solids in stormwater discharges from their site, as per the outstanding Abatement Notice EAC-22058.
3. THAT for 2022-2023, the programme for Devon 662 Limited Partnership remains similar to that programmed for the 2021-2022 period.
4. THAT Devon 662 Limited Partnership reinstate the two monitoring bores that have been damaged/removed.
5. THAT monitoring of discharges from Dialog Fitzroy Ltd in the 2022-2023 year continue at the same level as in 2021-2022.
6. THAT monitoring of consented activities at Downer EDI Works Ltd in the 2022-2023 year remain similar to that in 2021-2022.
7. THAT Downer EDI Works Ltd address the continued incidence of suspended solids above the consented threshold in accordance with Abatement Notice EAC-23612.
8. THAT monitoring of consented activities at Enviro NZ in the 2022-2023 year remain similar to that in 2021-2022.
9. THAT monitoring of discharges from Firth Industries Ltd in the 2022-2023 year remain similar to that programmed in 2021-2022.
10. THAT Firth Industries Ltd address the continued incidence of suspended solids above the consented threshold to avoid further enforcement action.
11. THAT monitoring of discharges covered by consents held by New Plymouth District Council in the 2022-2023 period continues at similar a level to that undertaken in the 2021-2022 period.
12. THAT monitoring of discharges from KiwiRail Holding Ltd and New Zealand Railways Corporation Ltd in the 2022-2023 period remain similar to that programmed in the 2021-2022 period.
13. THAT monitoring of discharges from Ravensdown Fertiliser Co-operative Ltd in the 2022-2023 period continue at a similar level as that undertaken in the 2021-2022 period.
14. THAT Ravensdown Fertiliser Co-operative Ltd continue to make improvements to the site to resolve non-compliance issues as per Abatement Notice EAC-24575.
15. THAT monitoring programme for discharges from Taranaki Sawmills Ltd in the 2022-2023 period continue at a similar level as that undertaken in the 2021-2022 period.
16. THAT monitoring of discharges from Technix Group Ltd in the 2022-2023 period continue at a similar level as that undertaken in the 2021-2022 period.
17. THAT monitoring of discharges from Urban Aspect Limited in the 2022-2023 year remain similar to that programmed in 2021-2022.
18. THAT monitoring of discharges from Waste Management NZ Ltd's site during 2022-2023 remains similar to that programmed for the 2021-2022 period.
19. THAT should there be issues with environmental or administrative performance with any of the consent holders in 2022-2023, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

20. THAT the option for a review of resource consent 3865-4.1 in June 2023, as set out in condition 11 of the consent, not be exercised, on the grounds that the current conditions are adequate.

The majority of these recommendations were subsequently implemented; Downer EDI Works Ltd complied with Abatement Notice EAC-23612, Firth Industries Ltd did not breach the suspended solid limit in the discharge, and Ravensdown Fertiliser Co-operative Ltd has implemented several measures on-site to comply with Abatement Notice EAC-24575, however compliance will be assessed in the 2023-2024 monitoring year. Allied Concrete Ltd still needs to comply with Abatement Notice EAC-22058.

17.2 Alterations to monitoring programmes for 2023-2024

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 the monitoring programme for all consented discharges in the lower Waiwhakaiho catchment in the 2023-2024 year continues at a similar level to that programmed for 2022-2023.

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 2023-2024.

17.3 Recommendations

1. THAT in monitoring of consented activities at **AML/Allied Concrete** in the 2023-2024 year continue at the same level as in 2022-2023.
2. THAT **AML/Allied Concrete** investigates and mitigates the source of suspended solids in stormwater discharges from their site, to ensure compliance with Abatement Notice EAC-22058.
3. THAT for 2023-2024, the programme for **Devon 662 Limited Partnership** remains similar to that programmed for the 2022-2023 period.
4. THAT monitoring of discharges from **Dialog Fitzroy Ltd** in the 2023-2024 year continue at the same level as in 2022-2023.
5. THAT monitoring of consented activities at **Downer EDI Works Ltd** in the 2023-2024 year remain similar to that in 2022-2023.
6. THAT monitoring of consented activities at **Enviro NZ** in the 2023-2024 year remain similar to that in 2022-2023.
7. THAT monitoring of discharges from **Firth Industries Ltd** in the 2023-2024 year remain similar to that programmed in 2022-2023.
8. THAT monitoring of discharges covered by consents held by **New Plymouth District Council** in the 2023-2024 period continues at similar a level to that undertaken in the 2022-2023 period.

9. THAT monitoring of discharges from **KiwiRail Holding Ltd and New Zealand Railways Corporation Ltd** in the 2023-2024 period remain similar to that programmed in the 2022-2023 period.
10. THAT monitoring of discharges from **Ravensdown Fertiliser Co-operative Ltd** in the 2023-2024 period continue at a similar level as that undertaken in the 2022-2023 period.
11. THAT **Ravensdown Fertiliser Co-operative Ltd** continue to make improvements to the site to ensure compliance with Abatement Notice EAC-24575.
12. THAT monitoring programme for discharges from **Taranaki Sawmills Ltd** in the 2023-2024 period continue at a similar level as that undertaken in the 2022-2023 period.
13. THAT monitoring of discharges from **Technix Group Ltd** in the 2023-2024 period continue at a similar level as that undertaken in the 2022-2023 period.
14. THAT monitoring of discharges from **Urban Aspect Limited** in the 2023-2024 year remain similar to that programmed in 2022-2023.
15. THAT monitoring of discharges from **Waste Management NZ Ltd** in the 2023-2024 remains similar to that programmed for the 2022-2023 period.
16. THAT, an additional 'control' site be included in the biomonitoring surveys near the SH3 bridge on the Waiwhakaiho River.
17. THAT further investigation is undertaken in relation to a possible deleterious discharge which may be having adverse effects on downstream aquatic life as indicated by the results of both macroinvertebrate surveys undertaken during the 2022-2023 period.
18. THAT should there be issues with environmental or administrative performance with any of the consent holders in 2023-2024, 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:

ANZECC	Australia New Zealand Environment and Conservation Council.
As*	Arsenic.
Biomonitoring	Assessing the health of the environment using aquatic organisms.
BOD	Biochemical oxygen demand. A measure of the presence of degradable organic matter, taking into account the biological conversion of ammonia to nitrate.
BODF	Biochemical oxygen demand of a filtered sample.
Bund	A wall around a tank to contain its contents in the case of a leak.
CBOD	Carbonaceous biochemical oxygen demand. A measure of the presence of degradable organic matter, excluding the biological conversion of ammonia to nitrate.
COD	Chemical oxygen demand. A measure of the oxygen required to oxidise all matter in a sample by chemical reaction.
Conductivity	An indication of the level of dissolved salts in a sample, measured at 25 °C and expressed in mS/m.
Cu*	Copper.
DO	Dissolved oxygen.
DRP	Dissolved reactive phosphorus.
DWSNZ	Drinking Water Standards New Zealand.
EEL	An environmental exposure limit (EEL) establishes the maximum concentration of an ecotoxic substance that is allowable in a particular environmental medium (for example, water, soil or sediment). This includes the deposition of a substance onto surfaces (for example via spray drift).
F	Fluoride.
FNU	Formazin nephelometric units, a measure of the turbidity of water.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
g/m ³	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
HC	Hydrocarbon. Also expressed as the relevant solvent e.g. C7-C9, C10-C14, C15-C36.
IBC	Intermediate bulk container, a square 1000 L plastic tank, generally encased in a steel cage.
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.
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 what were the circumstances/events surrounding an incident including any allegations of an incident.

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.
IPBC	Iodopropynyl Butyl Carbamate– carbamate based fungicide used for treating timber.
LOSP	Light organic solvent preservative- a class of wood treatment compounds that include PRCA, TEBA and IPBC.
L/s	Litres per second.
m ²	Square Metres.
MCI	Macroinvertebrate community index; a numerical indication of the state of biological life in a stream that takes into account the sensitivity of the taxa present to organic pollution in stony habitats.
Mixing zone	The zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.
mS/m	Millisiemens per metre.
NH ₄	Ammonium, normally expressed in terms of the mass of nitrogen (N).
NH ₃	Unionised ammonia, normally expressed in terms of the mass of nitrogen (N).
NNN	Nitrate-nitrite nitrogen, normally expressed in terms of the mass of nitrogen (N).
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
O&G	Oil and grease, defined as anything that will dissolve into a particular organic solvent (e.g. hexane). May include both animal material (fats) and mineral matter (hydrocarbons).
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
PRCA	Propiconazole- A triazole fungicide used to treat timber.
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> and including all subsequent amendments.
SS	Suspended solids.
SQMCI	Semi quantitative macroinvertebrate community index.
TEBA	Tebuconazole- A triazole fungicide used to treat timber.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU or FNU.
TP	Total Phosphorus.
Zn*	Zinc.

*an abbreviation for a metal or other analyte may be followed by the letters 'As', to denote the amount of metal recoverable in acidic conditions. This is taken as indicating the total amount of metal that might be solubilised under extreme environmental conditions. The abbreviation may alternatively be followed by the letter 'D', denoting the amount of the metal present in dissolved form rather than in particulate or solid form.

For further information on analytical methods, contact an Environment Quality Manager.

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Appendix I

Resource consents held by Companies in the Lower Waiwhakaiho River and Mangaone Stream catchments

(in alphabetical order)

(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: AML Limited [Trading as Allied Concrete]
P O Box 3318
NEW PLYMOUTH

Consent Granted
Date: 30 July 2008

Conditions of Consent

Consent Granted: To discharge stormwater and treated wastewater from truck washing at a concrete batching plant into the Mangaone Stream in the Waiwhakaiho catchment at or about (NZTM) 1696910E-5677375N

Expiry Date: 1 June 2026

Review Date(s): June 2014, June 2020 and/or within 3 months of receiving a notification under special condition 9

Site Location: 67 Hurlstone Drive, Bell Block

Legal Description: Lot 1 DP 17583 Blk II Paritutu SD

Catchment: Waiwhakaiho

Tributary: Mangaone

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. Notwithstanding any conditions within this consent, the consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
- 2. The maximum stormwater catchment area shall be no more than 5880 m².
- 3. Any above ground hazardous substances storage areas shall be bunded with drainage to the wastewater treatment system, and not directly to the stormwater catchment.
- 4. Concentrations of the following components shall not be exceeded in the discharge:

Component	Concentration
suspended solids	100 g/m ³
oil and grease	15 g/m ³

This condition shall apply prior to the entry of the stormwater and wastewater into the receiving waters, at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

- 5. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the Mangaone Stream:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.

6. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to an increase in pH of greater than 0.5, or a pH outside the range of 6.0 to 8.0 within the receiving waters of the Mangaone Stream.
7. The consent holder shall maintain, and adhere to, a contingency plan detailing measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not licensed by this consent, and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.
8. Within three months of the granting of this consent, the consent holder shall prepare and maintain an operation and management plan. This plan shall be adhered to at all times and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council, document how the site is to be managed in order to minimise the contaminants that become entrained in the stormwater. The plan shall include but not necessarily be limited to:
 - a) the loading, unloading and storage of materials;
 - b) maintenance of conveyance systems;
 - c) general housekeeping; and
 - d) management of the wastewater treatment system.
9. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes in the processes undertaken at the site, or the chemicals used or stored on site, which could alter the nature of the discharge. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to worknotification@trc.govt.nz. Notification by fax or post is acceptable if the consent holder does not have access to email.
10. 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:
 - a) during the month of June 2014 and/or June 2020; and/or
 - b) within 3 months of receiving a notification under special condition 9 above,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.

Signed at Stratford on 30 July 2008

For and on behalf of
Taranaki Regional Council

Director-Resource Management

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

Name of
Consent Holder: Devon 662 Limited Partnership
PO Box 11057
Palm Beach
Papamoa 3151

Decision Date (Review): 6 August 2020

Commencement Date 6 August 2020 (Granted Date: 3 May 2017)
(Review):

Conditions of Consent

Consent Granted: To discharge stormwater from a fertiliser storage depot onto
and into land and into the Mangaone Stream and into the
Waiwhakaiho River

Expiry Date: 1 June 2026

Review Date(s): June 2021, June 2022, June 2023, June 2024, June 2025
and in accordance with special condition 11

Site Location: Corner of Devon Road & Smart Road, Glen Avon

Grid Reference (NZTM) 1696554E-5676954N *discharge point 1 (Mangaone Stream)*
1696112E-5677289N *discharge point 2 (Waiwhakaiho River)*

Catchment: Waiwhakaiho

Tributary: Mangaone

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from a catchment area not exceeding 7.5 hectares located on land within the yellow boundary as indicated in Appendix 1 of this consent.
3. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³
dissolved reactive phosphorus	Concentration not greater than 30 gm ⁻³

This condition shall apply at sampling sites IND004002 (NZTM 1696241E-5677096N) and site STW002003 (NZTM1696554E-5676954N).

4. From 1 April 2021 the consent holder shall ensure that there is always clear and safe all-weather access to a point where the discharge can be sampled to check compliance with condition 3 above.
5. After allowing for reasonable mixing, within a mixing zone extending; 10 metres downstream of sampling site STW002003 and 200 metres downstream of site IND004002's final discharge point (at NZTM 1696277E-56773387N), each discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life; and
 - f) an unionised ammonia concentration exceeding 0.025 g/m³.

Consent 3865-4.1

6. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan and any amended versions shall be provided to the Chief Executive of the Taranaki Regional Council.
7. The site shall be operated in accordance with a 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site is to be managed to minimise the contaminants that become entrained in the stormwater and shall include as minimum:
 - a) the loading and unloading of materials;
 - b) general housekeeping; and
 - c) management of any stormwater treatment systems.

A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

8. The consent holder shall maintain groundwater bores listed in the table below in a manner that allows access and sampling.

TRC site code	Easting	Northing
GND1217	1696177	5677046
GND1218	1696238	5677091
GND2346	1696356	5677108
GND0517	1696412	5677149
GND0518	1696297	5676965

9. The consent holder shall maintain reasonable and safe foot access to the following stormwater sampling sites.

TRC site code	Easting	Northing
STW002003	1696554	1696554
IND004002	5676954	5676954

10. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, the chemicals used or stored on site, or any development and/or remediation that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act 1991. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.

Consent 3865-4.1

11. 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:
- a) annually during the month of June until 2025;
 - b) within 3 months of receiving a notification under special condition 10 above;

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.

Signed at Stratford on 6 August 2020

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management



Appendix 1. Area showing stormwater catchment area permitted by this consent

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

Name of
Consent Holder: Dialog Fitzroy Limited
Private Bag 2053
New Plymouth 4342

Decision Date: 12 March 2015

Commencement Date: 12 March 2015

Conditions of Consent

Consent Granted: To discharge stormwater from an industrial site into the
Waiwhakaiho River

Expiry Date: 1 June 2032

Review Date(s): June 2020, June 2026 and in accordance with special
condition 10

Site Location: 691 Devon Road, Bell Block

Legal Description: Lot 2 DP 470783 (Discharge source & site)

Grid Reference (NZTM) 1696451E-5677694N

Catchment: Waiwhakaiho

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. The stormwater discharged shall be from a catchment area not exceeding 3.3 ha.

Note: For the purpose of this condition the catchment area defined in this condition is a total for resource consent 0021-4.0 and 9853-2.0.

3. There shall be no discharge of contaminants from hydrotesting activities into the stormwater network.
4. The consent holder shall notify the Chief Executive, Taranaki Regional Council in writing at least 24 hours prior to undertaking any hydrotesting activities outside of the workshop. Notification shall include the location and date of the proposed discharge, and shall be emailed to worknotification@trc.govt.nz.
5. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³
chloride	Concentration not greater than 50 gm ⁻³

This condition shall apply before entry of the stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

6. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
7. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures to be undertaken to prevent spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity as being adequate to avoid, remedy or mitigate the environmental effects of such an event.

8. The site shall be operated in accordance with a 'Stormwater Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site will be managed to achieve compliance with the conditions of this consent and shall include but not be limited to:
 - a) Identification of sources of contaminants,
 - b) Methods that will be practised to ensure contaminants entering stormwater is at a practical minimum,
 - c) Methods that will be practised to ensure contaminants from hydrotesting activities will be prevented from entering stormwater;
 - d) the loading and unloading of materials;
 - e) maintenance of conveyance systems;
 - f) general housekeeping; and
 - g) management of any interceptor system.
9. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
10. 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:
 - a) during the month of June 2020 and/or June 2026 and/or
 - b) within 3 months of receiving a notification under special condition 9 above;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 30 August 2019

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of
Consent Holder: Dialog Fitzroy Limited
Private Bag 2053
New Plymouth 4342

Decision Date: 12 March 2015

Commencement Date: 12 March 2015

Conditions of Consent

Consent Granted: To discharge stormwater from an industrial site into the
Waiwhakaiho River

Expiry Date: 1 June 2032

Review Date(s): June 2020, June 2026 and in accordance with special
condition 10

Site Location: 691 Devon Road, Bell Block

Legal Description: Lot 2 DP 470783 (Discharge source & site)

Grid Reference (NZTM) 1696577E-5677800N

Catchment: Waiwhakaiho

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. The stormwater discharged shall be from a catchment area not exceeding 3.3 ha.

Note: For the purpose of this condition the catchment area defined in this condition is a total for resource consent 0021-4.0 and 9853-2.0.

3. There shall be no discharge of contaminants from hydrotesting activities into the stormwater network.
4. The consent holder shall notify the Chief Executive, Taranaki Regional Council in writing at least 24 hours prior to undertaking any hydrotesting activities outside of the workshop. Notification shall include the location and date of the proposed discharge, and shall be emailed to worknotification@trc.govt.nz.
5. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³
chloride	Concentration not greater than 50 gm ⁻³

This condition shall apply before entry of the stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

6. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
7. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures to be undertaken to prevent spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity as being adequate to avoid, remedy or mitigate the environmental effects of such an event.

8. The site shall be operated in accordance with a 'Stormwater Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site will be managed to achieve compliance with the conditions of this consent and shall include but not be limited to:
 - a) Identification of sources of contaminants,
 - b) Methods that will be practised to ensure contaminants entering stormwater is at a practical minimum,
 - c) Methods that will be practised to ensure contaminants from hydrotesting activities will be prevented from entering stormwater;
 - d) the loading and unloading of materials;
 - e) maintenance of conveyance systems;
 - f) general housekeeping; and
 - g) management of any interceptor system.
9. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
10. 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:
 - a) during the month of June 2020 and/or June 2026 and/or
 - b) within 3 months of receiving a notification under special condition 9 above;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 30 August 2019

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of
Consent Holder: Dialog Fitzroy Limited

Decision Date: 24 October 2014

Commencement Date: 24 October 2014

Conditions of Consent

Consent Granted: To discharge stormwater from an industrial site into the
Waiwhakaiho River

Expiry Date: 1 June 2032

Review Date(s): June 2026 and in accordance with special condition 8

Site Location: 691 Devon Road, Bell Block

Grid Reference (NZTM) 1696449E-5677553N

Catchment: Waiwhakaiho

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from a catchment area not exceeding 1.8 ha.
3. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³
chloride	Concentration not greater than 50 gm ⁻³

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

4. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
5. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity.

6. Within three months of the granting of this consent, the site shall be operated in accordance with a 'Stormwater Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site will be managed to achieve compliance with the conditions of this consent and shall include as a minimum:
 - a) identification of sources of contaminants,
 - b) methods that will be practised to ensure contaminants entering stormwater is at a practical minimum,
 - c) the loading and unloading of materials;
 - d) maintenance of conveyance systems;
 - e) general housekeeping; and
 - f) management of the interceptor system.
7. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act 1991. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
8. 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:
 - a) during the month of June 2020 and/or 2026 and/or
 - b) within 3 months of receiving a notification under special condition 7 above and/or
 - c) within 3 months of receiving the Stormwater Management Plan under special condition 6 above

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 October 2022

For and on behalf of
Taranaki Regional Council



A D McLay
Director - Resource Management

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

Name of
Consent Holder: Downer EDI Works Limited
PO Box 272
New Plymouth 4340

Decision Date: 20 May 2015

Commencement Date: 20 May 2015

Conditions of Consent

Consent Granted: To discharge treated stormwater and minor amounts of treated air scrubber waste water from an asphalt manufacturing plant onto land and into the Mangaone Stream

Expiry Date: 1 June 2032

Review Date(s): June 2020, June 2026 and in accordance with special condition 8

Site Location: Rifle Range Road, New Plymouth

Legal Description: Sec 4 SO 436795 (Discharge source & site)

Grid Reference (NZTM) 1696712E-5677949N

Catchment: Waiwhakaiho

Tributary: Mangaone

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from a catchment area not exceeding 6.5 Ha.
3. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
total recoverable hydrocarbons	Concentration not greater than 15 gm ⁻³

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

4. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
5. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity.
6. The site shall be operated in accordance with a 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site is to be managed to minimise the contaminants that become entrained in the stormwater and shall include as a minimum:
 - a) the loading and unloading of materials;
 - b) general housekeeping; and
 - c) management of the treatment systems.

7. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
8. 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:
 - a) during the month of June 2020 and/or June 2026; and/or
 - b) within 3 months of receiving a notification under special condition 7 above;

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.

Signed at Stratford on 20 May 2015

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of
Consent Holder: Envirowaste Services Limited
 Private Bag 92810
 Penrose
 Auckland 1642

Decision Date: 6 May 2015

Commencement Date: 6 May 2015

Conditions of Consent

Consent Granted: To discharge stormwater from an industrial site into the
 Puremu Stream and an unnamed tributary of the Mangaone
 Stream

Expiry Date: 1 June 2032

Review Date(s): June 2020, June 2026 and in accordance with special
 condition 9

Site Location: 31 Colson Road, New Plymouth

Legal Description: Lot 1 DP 3582, Pt Sections 144 and 145 Hua District, Pt Lot 1 DP
 2210, Pt Purakau A2 2B, Pt Lot DP 8654, Pt Sections 19 Blk VI
 Paritutu SD (Discharge source & site)

Grid Reference (NZTM) 1696639E-5676673N (Discharge point 1)
 1696993E-5676758N (Discharge point 2)

Catchment: Waiwhakaiho

Tributary: Puremu
 Mangaone

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from an area not exceeding 4.93 ha and as shown in the attached plan.
3. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

4. At the point at which the discharge enters the Mangaone Stream, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
5. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity.
6. The site shall be operated in accordance with a 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site is to be managed to minimise the contaminants that become entrained in the stormwater and shall include as minimum:
 - a) the loading and unloading of materials;
 - b) general housekeeping; and
 - c) management of the stormwater system.

7. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
8. This consent shall lapse on 30 June 2020, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
9. 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:
 - a) during the month of June 2020 and/or June 2026 and/or
 - b) within 3 months of receiving a notification under special condition 7 above;

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.

Signed at Stratford on 6 May 2015

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management



Figure 1 - Stormwater catchment area permitted by this consent (in yellow)

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

Name of
Consent Holder: Firth Industries Limited
PO Box 3122
New Plymouth 4341

Decision Date: 21 July 2015

Commencement Date: 21 July 2015

Conditions of Consent

Consent Granted: To discharge stormwater and treated wastewater into the
Waiwhakaiho River

Expiry Date: 1 June 2032

Review Date(s): June 2020, June 2026 and in accordance with special
condition 10

Site Location: Clemow Road, Fitzroy

Legal Description: Lot 1 DP 10146 Lot 2 DP 15134 & Sec 219 Hua Dist
(Discharge source & site)

Grid Reference (NZTM) 1696258E-5677519N

Catchment: Waiwhakaiho

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from an area not exceeding 1.618 Ha.
3. All stormwater shall be directed for treatment through the stormwater treatment system for discharge in accordance with the special conditions of this permit.
4. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

5. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) many significant adverse effects on aquatic life;
 - f) a pH of less than 6.0 or greater than 9.0;
 - g) a increase of pH greater than 0.5.
6. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity.

Consent 0392-4.0

7. By 21 October 2015 the consent holder shall prepare an updated 'Management Plan' to be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site is to be managed to minimise the contaminants that become entrained in the stormwater and shall include as minimum:
- a) the loading and unloading of materials;
 - b) general housekeeping;
 - c) design drawings and specifications for proposed upgrades to the wastewater treatment system and site improvements as set out in pre-design documents submitted in support of application 0392-4.0 by Firth Industries Limited on 3rd and 4th March 2015;
 - d) a schedule of time frames for the construction and commissioning of proposed wastewater treatment system and site improvements;
 - e) a schedule of inspections and maintenance of wastewater and stormwater treatment systems; and
 - f) any extra silt controls and stormwater management to be undertaken during construction of the upgrades.
8. By 22 February 2016 the consent holder shall undertake site improvements and upgrades to the wastewater treatment system as set out in the management plan required by condition seven. After 22 February 2016 wastewater shall not be included in the stormwater discharge.
9. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge, site improvement construction, and or change in treatment systems. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act 1991. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
10. 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:
- a) during the month of June 2020 and/or June 2026;
 - b) within 3 months of receiving a notification under special condition 9 above;

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.

Signed at Stratford on 21 July 2015

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of
Consent Holder: KiwiRail Holdings Limited
 PO Box 593
 Wellington 6140

Decision Date: 31 March 2017

Commencement Date: 31 March 2017

Conditions of Consent

Consent Granted: To discharge stormwater into the Waiwhakaiho River

Expiry Date: 1 June 2026

Review Date(s): June 2020 and in accordance with special condition 8

Site Location: Smart Road, New Plymouth

Grid Reference (NZTM) 1696090E-5677290N

Catchment: Waiwhakaiho

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from an area not exceeding 4.8 hectares.
3. Constituents in the discharge shall meet the standards shown in the following table:

Constituent	Standard
pH	Within the range 6.0 to 9.0
Suspended solids	Concentration not greater than 100 gm ⁻³
Oil and grease	Concentration not greater than 15 gm ⁻³
Ammoniacal nitrogen	Concentration not greater than 3 gm ⁻³
Dissolved reactive phosphate	Concentration not greater than 1 gm ⁻³

This condition shall apply prior to the entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

4. That after allowing for reasonable mixing, within a mixing zone extending 100 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any of the following effects in the receiving waters:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life, habitats or ecology.
5. That the consent holder shall maintain a contingency plan, to the satisfaction of the Chief Executive, Taranaki Regional Council, outlining measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants, and the procedures to be carried out should such a spillage occur.

6. The consent holder shall operate in accordance with a 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site is to be managed to minimise the contaminants that become entrained in the stormwater and shall include as minimum:
- a) the loading and unloading of materials;
 - b) maintenance of leased property;
 - c) general housekeeping; and
 - d) management of the interceptor system.

Note: A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

7. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act 1991. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
8. 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:
- a) during the month of June 2020;
 - b) within 3 months of receiving a notification under special condition 7 above.

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.

Signed at Stratford on 31 March 2017

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of
Consent Holder: New Zealand Railways Corporation
P O Box 593
WELLINGTON 6140

Consent Granted
Date: 31 July 2009

Conditions of Consent

Consent Granted: To discharge stormwater from the Smart Road Rail Terminal into an unnamed tributary of the Mangaone Stream, and into the Mangaone Stream in the Waiwhakaiho catchment at or about (NZTM) 1696529E-5676921N

Expiry Date: 1 June 2026

Review Date(s): June 2014, June 2020

Site Location: Smart Road, New Plymouth

Legal Description: Pt Sec 144 & 145 Hua Dist, Pt Lot 1 DP 2210 & Pt Lot 2 DP 8654

Catchment: Waiwhakaiho

Tributary: Mangaone

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. Notwithstanding any other condition of this consent, the consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from a catchment area not exceeding 11.28ha.
3. By 30 September 2009, where goods are on site in excess of 3 days, any above ground hazardous substances storage areas shall be bunded with drainage to sumps, or discharged via a three stage interceptor and stop valve such that the flow can be isolated in the event of a spill.
4. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
Oil and Grease	Concentration not greater than 15 gm ⁻³

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

5. After allowing for reasonable mixing, within a mixing zone extending to the Katere Road Bridge (NZTM 1696444E-5676696N) downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.

Consent 1735-3

6. The consent holder shall maintain a contingency plan, which shall be reviewed at not more than 2 yearly intervals. The contingency plan shall be adhered to in the event of a spill or emergency and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council, detail measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not authorised by this consent and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.
7. By 30 September 2009, the consent holder shall prepare and maintain a stormwater management plan. This plan shall be adhered to at all times and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council document how the site is to be managed in order to minimise the contaminants that become entrained in the stormwater. The plan shall include but not necessarily be limited to:
 - a) the loading and unloading of materials;
 - b) maintenance of conveyance systems;
 - c) general housekeeping; and
 - d) management of the interceptor system;and shall be reviewed at not more than 2 yearly intervals.
8. This consent shall lapse on 30 September 2014, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
9. 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 2014 and/or June 2020, 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.

Signed at Stratford on 31 July 2009

For and on behalf of
Taranaki Regional Council

Director-Resource Management

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

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH 4342

Consent Granted 10 June 2008
Date:

Conditions of Consent

Consent Granted: To discharge stormwater from the Katere and
Waiwhakaiho industrial areas into the Mangaone Stream
via multiple outfalls between Egmont Road and the
confluence with the Waiwhakaiho River at or about (NZTM)
1697233E-5677145N, 1697032E-5677145N,
1696882E-5677087N, 1696734E-5676990N,
1696545E-5677175N, 1696755E-5677622N,
1696757E-5677671N, 1696771E-5677957N, and
1696777E-5677965N

Expiry Date: 1 June 2026

Review Date(s): June 2010, June 2014, June 2020

Site Location: Katere Road, New Plymouth

Legal Description: Various

Catchment: Waiwhakaiho

Tributary: Mangaone

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

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 at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
- 2. The consent holder shall prevent, where possible, or mitigate any erosion occurring as a result of the exercise of this consent.
- 3. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the Mangaone Stream:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.

Consent 1275-3

4. 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 2010 and/or June 2014 and/or June 2020, 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.

Signed at Stratford on 10 June 2008

For and on behalf of
Taranaki Regional Council

Director-Resource Management

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

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
New Plymouth 4342

Decision Date: 16 March 2016

Commencement Date: 16 March 2016

Conditions of Consent

Consent Granted: To discharge leachate from a former landfill site into
groundwater, adjacent to the Waiwhakaiho River

Expiry Date: 1 June 2032

Review Date(s): June 2020, June 2026

Site Location: Devon Road, Constance Street/Vickers Road,
New Plymouth

Grid Reference (NZTM) 1696236E-5677324N

Catchment: Waiwhakaiho

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The discharge shall not cause groundwater to breach the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
Total Ammonia	Concentration not greater than 25 mg/L
Dissolved reactive phosphorus	Concentration not greater than 0.065 mg/L
pH	Within the range 6.5 to 8.5

2. The discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the Waiwhakaiho downstream of the sampling site WKH000925:
 - a. the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b. any conspicuous change in the colour or visual clarity;
 - c. any emission of objectionable odour;
 - d. the rendering of fresh water unsuitable for consumption by farm animals;
 - e. any significant adverse effects on aquatic life;
 - f. a concentration of unionised ammonia greater than 0.0025 g/m³ -N.
3. The consent holder shall ensure that the three piezometers situated at the Bewley Road site are maintained for monitoring purposes (sites GND0548, GND0555, GND0556).
4. 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 2020 and/or June 2026, 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.

Signed at Stratford on 16 March 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH 4342

Consent Granted
Date: 10 June 2008

Conditions of Consent

Consent Granted: To discharge stormwater from the Waiwhakaiho industrial area into the Waiwhakaiho River via multiple outfalls between the State Highway 3 bridge and the confluence with the Mangaone Stream at or about (NZTM) 1695807E-5676977N, 1695902E-5677235N, 1696113E-5677288N, 1696233E-5677323N, 1696377E-5677616N, 1696472E-5677706N, 1696539E-5677767N, 1696573E-5677800N, 1696611E-5677837N, and 1696683E-5677904N

Expiry Date: 1 June 2026

Review Date(s): June 2010, June 2014, June 2020

Site Location: Rifle Range Road, New Plymouth

Legal Description: Various

Catchment: Waiwhakaiho

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

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 at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
- 2. The consent holder shall prevent, where possible, or mitigate any erosion occurring as a result of the exercise of this consent.
- 3. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the Waiwhakaiho River:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.

Consent 5163-2

4. 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 2010 and/or June 2014 and/or June 2020, 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.

Signed at Stratford on 10 June 2008

For and on behalf of
Taranaki Regional Council

Director-Resource Management

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

Name of
Consent Holder: Ravensdown Limited
PO Box 16921
Hornby
Christchurch 8441

Decision Date (Review): 6 August 2020

Commencement Date 6 August 2020 (Granted Date: 2 February 2018)
(Review):

Conditions of Consent

Consent Granted: To discharge stormwater from a fertiliser storage site onto
and into land and into the Mangaone Stream

Expiry Date: 1 June 2032

Review Date(s): June 2026 and in accordance with special condition 9

Site Location: Katere Road, Avon, New Plymouth

Grid Reference (NZTM) 1697034E-5677049N

Catchment: Waiwhakaiho

Tributary: Mangaone

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall only be from the area shown on the plan attached as Appendix 1.
3. Constituents of any discharges to the Mangaone Stream or MacLeod's Drain that arise as a result of the exercise of this consent shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
total recoverable oil and grease	Concentration not greater than 15 gm ⁻³
CBOD (carbonaceous biochemical oxygen demand)	10 gm ⁻³
dissolved reactive phosphorus	5 gm ⁻³
suspended solids	100 gm ⁻³
ammoniacal nitrogen	5 gm ⁻³

4. From 1 April 2021 the consent holder shall ensure that there is always clear and safe all-weather access to a point where the discharge can be sampled to check compliance with condition 3 above.
5. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life;
 - f) a rise in dissolved carbonaceous biochemical oxygen of greater than 2.0 g/m³; and
 - g) un-ionised ammonia exceeding 0.025 g/m³.
6. Within 3 months of the consent being granted the consent holder shall submit and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan and any amended versions shall be provided to the Chief Executive of the Taranaki Regional Council.

7. Within 3 months of the consent being granted the site shall be operated in accordance with a 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site is to be managed to minimise the contaminants that become entrained in the stormwater and shall include as minimum:

- a) the loading and unloading of materials;
- b) general housekeeping; and
- c) management of the interceptor systems and trade waste catchment areas.

Note: A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act, 1991. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
9. 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:
- a) during the month of June 2020 and/or June 2026;
 - b) within 3 months of receiving a notification under special condition 8 above; and/or
 - c) for the purposes of reviewing the discharge standards, contaminant limits and sampling points once development on the site has been completed.

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.

Signed at Stratford on 6 August 2020

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Appendix 1: Stormwater discharged shall be from the area shown in yellow



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

Name of
Consent Holder: Taranaki Sawmills Limited
PO Box 7145
Fitzroy
New Plymouth 4341

Decision Date 12 March 2021

Commencement Date 12 March 2021

Conditions of Consent

Consent Granted: To discharge stormwater from a timber treatment site into the Mangaone Stream

Expiry Date: 1 June 2038

Review Date(s): June 2026, June 2032

Site Location: 47 & 53 Katere Road, Waiwhakaiho

Grid Reference (NZTM) 1696875E-5677077N

Catchment: Waiwhakaiho

Tributary: Mangaone

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of the application. In the case of any contradiction between the documentation submitted in support of this application and the conditions of this consent, the conditions of this consent shall prevail.
3. The maximum stormwater catchment area shall be no more than 2.3 Hectares.
4. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ³
oil and grease	Concentration not greater than 15 gm ³
Arsenic	Concentration not greater than 0.24g/m ³
Copper (dissolved)	Concentration not greater than 0.088 g/m ³
Chromium	Concentration not greater than 0.4 g/m ³
Tributyltin	Concentration not greater than 0.0046 g/m ³
Zinc (dissolved)	Concentration not greater than 0.64 g/m ³

These standards shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.


5. The consent holder shall ensure that there is always clear and safe all-weather access to a point where the discharge can be sampled to check compliance with condition 6 above.
6. After allowing for reasonable mixing, within a mixing zone extending 30 metres downstream of the discharge point, the discharge shall not either by itself, or in combination with other discharges, give rise to any or all of the following effects in the receiving waters of the Mangaone Stream:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.

Consent 3491-3.0

7. After allowing for reasonable mixing within a mixing zone extending 30 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to a filtered carbonaceous 5 day biochemical oxygen demand of more than 2 g/m³ an increase of greater than 0.5 pH increment, or a pH outside the range of 6.0 to 9.0 within the receiving waters of the Mangaone Stream.
8. The consent holder shall maintain and regularly review a 'Contingency Plan' that details measures and procedures that will be undertaken in the event of a spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity as being adequate to avoid, remedy or mitigate the environmental effects of such an event
9. The site shall be operated in accordance with a 'Management Plan'. The plan shall detail how the site is managed to minimise the contaminants that become entrained in the stormwater, and generally ensure that the conditions of this consent will be met. It shall include as minimum:
 - a) the loading and unloading of materials;
 - b) maintenance of conveyance systems;
 - c) general housekeeping; and
 - d) management of the stormwater system.The Management Plan shall be made available to a Taranaki Regional Council Enforcement Officer upon request.
10. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Unless the Chief Executive advises that an alternative method is required this notice shall be served by completing and submitting the 'Notification of work' form on the Council's website (<http://bit.ly/TRCWorkNotificationForm>).
11. 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 2026 and/or June 2032, 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.

Signed at Stratford on 12 March 2021

For and on behalf of
Taranaki Regional Council



A D McLay
Director - Resource Management

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

Name of
Consent Holder: Technix Group Limited
Private Bag 2222
New Plymouth 4342

Decision Date: 24 October 2014

Commencement Date: 24 October 2014

Conditions of Consent

Consent Granted: To discharge stormwater from an industrial site into the
Waiwhakaiho River

Expiry Date: 01 June 2032

Review Date(s): June 2020, June 2026 and in accordance with special
condition 9

Site Location: 691 Devon Road, Bell Block

Legal Description: Lot 2 DP 20360 (Discharge source & site)

Grid Reference (NZTM) 1696623E-5677733N

Catchment: Waiwhakaiho

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from a catchment area not exceeding 2.2 ha.
3. After 31 December 2015 there shall be no discharge from the truckwash to the stormwater network.
4. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³
chloride	Concentration not greater than 50 gm ⁻³

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

5. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
6. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity.

7. Within three months of the granting of this consent, the site shall be operated in accordance with a 'Stormwater Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site will be managed to achieve compliance with the conditions of this consent and shall include as a minimum:
- a) identification of sources of contaminants,
 - b) methods that will be practised to ensure contaminants entering stormwater is at a practical minimum,
 - c) the loading and unloading of materials;
 - d) maintenance of conveyance systems;
 - e) general housekeeping; and
 - f) management of the interceptor system.
8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act 1991. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
9. 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:
- a) during the month of June 2020 and/or 2026 and/or
 - b) within 3 months of receiving a notification under special condition 8 above and/or
 - c) within 3 months of receiving the Stormwater Management Plan under special condition 7 above.

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.

Signed at Stratford on 24 October 2014

For and on behalf of
Taranaki Regional Council



A D McLay
Director - Resource Management

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

Name of
Consent Holder: Technix Group Limited
Private Bag 2222
New Plymouth 4342

Decision Date: 24 October 2014

Commencement Date: 24 October 2014

Conditions of Consent

Consent Granted: To discharge stormwater from an industrial site into the
Mangaone Stream

Expiry Date: 01 June 2032

Review Date(s): June 2020, June 2026 and in accordance with special
condition 8

Site Location: 691 Devon Road, Bell Block

Legal Description: Lot 1 DP 20360 (Discharge source & site)

Grid Reference (NZTM) 1696748E-5677890N

Catchment: Waiwhakaiho

Tributary: Mangaone

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from a catchment area not exceeding 1.3 ha.
3. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³
chloride	Concentration not greater than 50 gm ⁻³

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

4. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
5. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity.

6. Within three months of the granting of this consent, the site shall be operated in accordance with a 'Stormwater Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site will be managed to achieve compliance with the conditions of this consent and shall include as a minimum:
 - a) identification of sources of contaminants,
 - b) methods that will be practised to ensure contaminants entering stormwater is at a practical minimum,
 - c) the loading and unloading of materials;
 - d) maintenance of conveyance systems;
 - e) general housekeeping; and
 - f) management of the interceptor system.
7. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
8. 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:
 - a) during the month of June 2020 and/or 2026 and/or
 - b) within 3 months of receiving a notification under special condition 7 above and/or
 - c) within 3 months of receiving the Stormwater Management Plan under special condition 6 above

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.

Signed at Stratford on 24 October 2014

For and on behalf of
Taranaki Regional Council



A D McLay
Director - Resource Management

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

Name of
Consent Holder: Urban Aspect Limited

Decision Date: 5 June 2015

Commencement Date: 5 June 2015

Conditions of Consent

Consent Granted: To discharge stormwater onto and into land and into the
Mangaone Stream

Expiry Date: 1 June 2032

Review Date(s): June 2026 and in accordance with special condition 9

Site Location: 69 Katere Road, New Plymouth

Grid Reference (NZTM) 1697103E – 5677252N
1697061E – 5677209N
1697033E – 5677144N

Catchment: Waiwhakaiho

Tributary: Mangaone

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The stormwater discharged shall be from an area not exceeding 1.77 Ha.
3. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³
carbonaceous biochemical oxygen demand	Concentration not greater than 15 gm ⁻³

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling points approved by the Chief Executive, Taranaki Regional Council.

4. After allowing for reasonable mixing, within a mixing zone extending 30 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in Mangaone Stream:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life; and
 - f) an unionised ammonia concentration of greater the 0.025 g/m³-N.
5. The consent holder shall maintain and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity.

6. The site shall be operated in accordance with an up to date 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site is to be managed to minimise the contaminants that become entrained in the stormwater and shall include as minimum:
- a) the loading and unloading of materials;
 - b) general housekeeping;
 - c) management of the treatment systems; and
 - d) timeframes for any proposed improvements.

Note: A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

7. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
8. This consent shall lapse on 30 June 2020 unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
9. 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:
- a) during the month of June 2020 and/or June 2026
 - b) within 3 months of receiving a notification under special condition 7 above;

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 1 November 2022

For and on behalf of
Taranaki Regional Council



A D McLay
Director - Resource Management

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

Name of
Consent Holder: Waste Management NZ Limited
PO Box 7128
New Plymouth 4341

Decision Date: 27 October 2017

Commencement Date: 27 October 2017

Conditions of Consent

Consent Granted: To discharge stormwater from a waste depot into an unnamed tributary of the Mangaone Stream

Expiry Date: 1 June 2032

Review Date(s): June 2018, June 2019 and June 2020 and 3-yearly thereafter, and in accordance with special condition 9

Site Location: 86 Katere Road, New Plymouth

Grid Reference (NZTM) 1697274E-5677140N

Catchment: Waiwhakaiho

Tributary: Mangaone

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. From 15 January 2018:
 - a) no leachate overflow from the refuse storage area or any other part of the site shall enter the unnamed tributary of the Mangaone Stream; and
 - b) a sediment interceptor, such as a sump, shall be installed downstream of existing sump A1.
3. The stormwater discharged shall only be from the area shown on the plan attached as Appendix 1.
4. Constituents of the discharge sampled at WM4 (shown in the plan attached as Appendix 2 and at approximate grid reference 1697214E-5677143N) shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
total recoverable oil and grease	Concentration not greater than 15 gm ⁻³
CBOD (carbonaceous biochemical oxygen demand)	20 gm ⁻³

5. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life;
 - f) unionised ammonia to exceed 0.025 gm⁻³; and
 - g) filtered carbonaceous biochemical oxygen demand to exceed 2.0.
6. Within 3 months of the consent being granted the consent holder shall submit and regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan and any amended versions shall be provided to the Chief Executive of the Taranaki Regional Council.

7. Within 3 months of the consent being granted the site shall be operated in accordance with a 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site is to be managed to minimise the contaminants that become entrained in the stormwater and shall include as minimum:

- a) the loading and unloading of materials;
- b) general housekeeping; and
- c) management of the interceptor systems and trade waste catchment areas.

Note: A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act, 1991. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
9. 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:
- a) during the month of June 2018, 2019 and 2020 and 3-yearly thereafter;
 - b) within 3 months of receiving a notification under special condition 8 above; and/or
 - c) for the purposes of reviewing the discharge standards, contaminant limits and sampling points once development on the site has been completed.

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.

Signed at Stratford on 27 October 2017

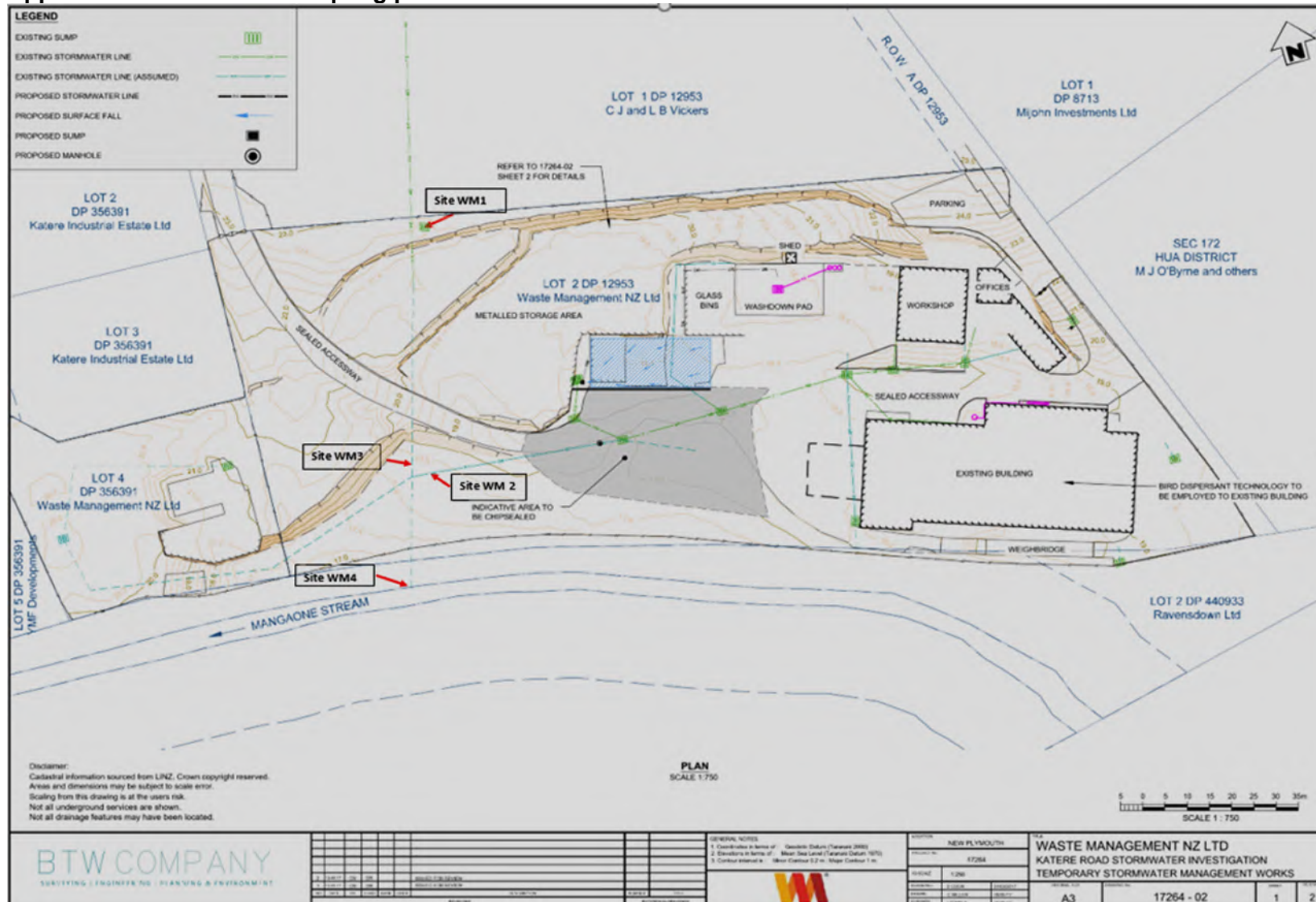
For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Appendix 1: Area of stormwater discharge shown in blue.



Appendix 2: Location of sampling points



Appendix II

Categories used to evaluate environmental and
administrative performance

Categories used to evaluate environmental and administrative performance

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.

