

Lower Waiwhakaiho Catchment  
Monitoring Programme  
Annual Report  
2018-2019

Technical Report 2019-17

ISSN: 1178-1467 (Online)  
Document: 2235369 (Word)  
Document: 2321248 (Pdf)

Taranaki Regional Council  
Private Bag 713  
STRATFORD  
March 2020



## 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 2018 to June 2019, and is the 26<sup>th</sup> report for this combined monitoring programme.

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 hapu. 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 2018-2019 monitoring period a total of 21 consents were held by the 14 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.

**During the year under review, the companies generally demonstrated a good level of environmental performance and a high level of administrative performance.**

The monitoring programme included 39 site inspections, 75 samples of discharges, groundwater and receiving waters, and two biomonitoring surveys of the Waiwhakaiho River and Mangaone Stream.

In the lower Waiwhakaiho River and Mangaone Stream, the biomonitoring surveys generally reported results that were similar to or lower than long term medians. In the period under review it was found that all Waiwhakaiho River sampling sites generally recorded community richness similar to long term medians for their respective sites. There was a typical downstream decrease in MCI scores between the sites, but these results did not indicate any significant effects of stormwater or wastewater discharges from the Fitzroy industrial area on the macroinvertebrate communities of the Waiwhakaiho River. The results from the Mangaone Stream exhibited the expected and typical downstream decrease in MCI scores, however in this instance noticeable deterioration of SQMCI scores were noted in the middle to lower reaches of the Mangaone Stream during the summer survey.

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 was found to be non-compliant in regard to nutrients during the summer and winter months.

The light organic solvent preservative (LOSP) chemical Propiconazole was detected in the Mangaone Stream downstream of Taranaki Sawmills Ltd during a wet weather survey. The levels were found to be well within the empirical NOECs (no observable effect concentrations) for aquatic life developed by the European Chemical Agency and the Cawthron Institute.

Monitoring of groundwater and leachate in relation to the old landfill area off Bewley Road showed that all of the samples collected from the three monitoring bores complied with consent limits.

There were six unauthorised incidents recorded that were associated with the consents covered by this report, which resulted in three abatement notices being issued.

During the period under review, AML Ltd demonstrated a high level of environmental and administrative performance and compliance, with their resource consent.

During the period under review, Downer EDI Works Ltd demonstrated a high level of environmental and high level of administrative performance and compliance with their resource consent in relation to its site at Rifle Range Road.

During the period under review, Envirowaste Services Ltd demonstrated a good level of environmental and high level of administrative performance and compliance with their resource consent.

During the period under review, Firth Industries Ltd demonstrated a good level of environmental and high level of administrative performance and compliance with their resource consent.

During the period under review, Fitzroy Engineering Group Ltd demonstrated a high level of environmental and administrative performance and compliance with their resource consent.

During the period under review, an improvement in the level of environmental performance and compliance Freight and Bulk Transport Holdings Ltd was required. There were ongoing issues in regards to elevated BODC and suspended solids in their discharges and one abatement notice was issued in regard to dust emissions. It is noted however that a significant investment in site improvements were made in the latter part of the period to address these issues. Freight and Bulk Transport Holdings Ltd demonstrated a high level of administrative performance.

During the period under review, IBR Holdings Ltd demonstrated a high level of environmental performance and good level of administrative performance and compliance with their resource consent in relation to its site on Katere Road. The consent has been surrendered and discharges are now covered under rule 23 of the *Regional Freshwater Plan* (RFP).

During the period under review, an improvement was required in Nankervis Family Trust/City Care's level of environmental performance in relation to its site on Dean Place. During the monitoring it was found that the control of sediment accumulation and maintenance of treatment systems was not adequate. There was also one non-compliant sample result. Works were undertaken to rectify these matters. Nankervis/City Care demonstrated a high level of administrative performance.

During the period under review, New Plymouth District Council demonstrated a high level of environmental performance and high level of administrative performance and compliance with its resource consents.

During the period under review, Kiwi Rail Holdings Ltd and New Zealand Railways Corporation Ltd demonstrated a high of environmental performance and high level of administrative performance and compliance with their resource consents in relation to its Smart Road site.

During the period under review, Ravensdown Fertiliser Co-operative Ltd (old site) demonstrated a good level of environmental and high level of administrative performance and compliance with their resource consent. The monitoring indicates that the site is still leaching fertiliser residue into groundwater and that there may be some emergent stormwater issues related to the site being vacant. However the consent has now been transferred to the new owners who are addressing the matter.

During the monitoring period an improvement in Ravensdown's (new site) environmental performance and compliance with their resource consent was required. Two samples were found to be non-compliant and site housekeeping was found to be inadequate. The consent holder was issued an abatement notice and is undertaking works to address the issues. Ravensdown demonstrated a high level of administrative performance.

During the period under review Taranaki Sawmills Ltd demonstrated a good level of environmental performance. They achieved a high level of administrative performance and compliance with the resource consents in relation to its site on Katere Road. There were non-compliant discharge samples in which elevated zinc concentrations were found. An abatement notice was issued in response to this matter, which is now being addressed.

During the period under review, Technix Group Ltd demonstrated a high level of environmental performance and high level of administrative performance and compliance with their resource consents in relation to their sites on Rifle Range Road.

During the period under review, Waste Management NZ Ltd demonstrated a good level of environmental and high level of administrative performance and compliance with their resource consent in relation to their site on Katere Road. An issue regarding windblown refuse leaving the site was responded to by way of 14-day letter and resolved during the monitoring period.

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved. When compared to previous monitoring periods, overall, a good level of environmental performance is being maintained in the Lower Waiwhakaiho Catchment.

This report includes recommendations for the 2019-2020 year, including recommendations relating to the optional review of several of the consents.



## Table of contents

	Page	
1	Introduction	1
1.1	Compliance monitoring programme reports and the Resource Management Act 1991	1
1.1.1	Introduction	1
1.1.2	Structure of this report	1
1.1.3	The Resource Management Act (1991) and monitoring	2
1.1.4	Investigations, interventions, and incidents	2
1.1.5	Evaluation of environmental performance	2
1.1.6	Recommendations and changes to monitoring programmes	4
1.1.7	Recommendations for exercising June 2020 review options	4
1.2	Resource consents	4
1.3	Monitoring programme	10
1.3.1	Introduction	10
1.3.2	Programme liaison and management	10
1.3.3	Site inspections	10
1.3.4	Chemical sampling	10
	1.3.4.1 Surface water surveys	10
	1.3.4.2 Discharge sampling	11
	1.3.4.3 Groundwater surveys	11
	1.3.4.4 Streambed sediment sampling	11
1.3.5	Biomonitoring surveys	11
	1.3.5.1 Macroinvertebrate surveys	11
	1.3.5.2 Fish survey	11
2	AML Ltd (trading as Allied Concrete)	14
2.1	Process description	14
2.2	Water discharge permit	15
2.3	Results	15
	2.3.1 Inspections	15
	2.3.2 Results of discharge monitoring	15
2.4	Discussion	16
	2.4.1 Evaluation of plant performance	16
	2.4.2 Environmental effects of exercise of consent	16
	2.4.3 Evaluation of performance	16

3	Downer EDI Works Ltd	18
3.1	Process description	18
3.2	Water discharge permit	19
3.3	Results	19
3.3.1	Inspections	19
3.3.2	Results of discharge monitoring	19
3.3.3	Investigations, interventions, and incidents	20
3.4	Discussion	20
3.4.1	Discussion of site performance	20
3.4.2	Environmental effects of exercise of consent	20
3.4.3	Evaluation of performance	21
4	Envirowaste Services Ltd	22
4.1	Process description	22
4.2	Water discharge permit	22
4.3	Results	22
4.3.1	Inspections	22
4.3.2	Results of discharge monitoring	23
4.3.3	Investigations, interventions, and incidents	23
4.3.4	Discussion of site performance	24
4.3.5	Environmental effects of exercise of consent	24
4.3.6	Evaluation of performance	24
5	Firth Industries Ltd (Division of Fletcher Concrete and Infrastructure Ltd)	26
5.1	Process description	26
5.2	Water discharge permit	27
5.3	Results	27
5.3.1	Inspections	27
5.3.2	Results of discharge monitoring	27
5.3.3	Investigations, interventions, and incidents	28
5.4	Discussion	28
5.4.1	Discussion of site performance	28
5.4.2	Environmental effects of exercise of consent	29
5.4.3	Evaluation of performance	29
6	Fitzroy Engineering Group Ltd	30
6.1	Process description	30
6.2	Water discharge permits	31
6.3	Results	32



	6.3.1	Inspections	32
	6.3.2	Results of discharge monitoring	32
	6.3.3	Investigations, incidents and enforcement	33
6.4		Discussion	33
	6.4.1	Discussion of site performance	33
	6.4.2	Environmental effects of exercise of consents	33
	6.4.3	Evaluation of performance	33
7		Freight and Bulk Transport Holdings Ltd	36
	7.1	Process description	36
	7.2	Water discharge permit	36
	7.3	Results	37
	7.3.1	Inspections	37
	7.3.2	Results of discharge monitoring	37
	7.3.3	Investigations, interventions, and incidents	37
	7.4	Discussion	38
	7.4.1	Discussion of site performance	38
	7.4.2	Environmental effects of exercise of consent	39
	7.4.3	Evaluation of performance	39
8		IBR Holdings Ltd	41
	8.1	Process description	41
	8.2	Water discharge permit	41
	8.3	Results	41
	8.3.1	Inspections	41
	8.4	Investigations, interventions, and incidents	41
	8.5	Discussion	41
	8.5.1	Discussion of site performance	41
	8.5.2	Environmental effects of exercise of consent	41
	8.5.3	Evaluation of performance	42
9		Nankervis Family Trust/ City Care	43
	9.1	Process description	43
	9.2	Water discharge permit	43
	9.3	Results	44
	9.3.1	Inspections	44
	9.3.2	Results of discharge monitoring	44
	9.3.3	Investigations, interventions, and incidents	44

9.4	Discussion	45
9.4.1	Discussion of site performance	45
9.4.2	Environmental effects of exercise of consent	45
9.4.3	Evaluation of performance	45
10	New Plymouth District Council	47
10.1	Process description	47
10.1.1	Stormwater discharges	47
10.1.2	Bewley Road closed landfill	48
10.2	Water discharge permits	49
10.3	Results	49
10.3.1	Stormwater discharges	49
10.3.1.1	Inspections	49
10.3.1.2	Chemical monitoring	49
10.3.1.3	Discharge to Waiwhakaiho River from Burton Street	50
10.3.1.4	Discharge to Waiwhakaiho River from McLeod's Drain	50
10.3.1.5	Discharge to Waiwhakaiho River from Rifle Range Road and Struthers Place	51
10.3.1.6	Discharge to Waiwhakaiho River from Vickers Road	51
10.3.1.7	Discharge to Mangaone Stream from mid Katere Road	52
10.3.1.8	Discharge to Mangaone Stream from Hurlstone Drive	52
10.3.2	Bewley Road industrial development	53
10.3.3	Groundwater monitoring	53
10.3.4	Surface water and discharge monitoring	55
10.3.5	Investigations, interventions, and incidents	57
10.4	Discussion	57
10.4.1	Environmental effects of exercise of consents	57
10.4.2	Evaluation of performance	58
11	New Zealand Railways Corporation/KiwiRail Holdings Ltd (KiwiRail)	60
11.1	Process description	60
11.2	Water discharge permits	61
11.3	Results	61
11.3.1	Inspections	61
11.3.2	Chemical analysis	61
11.3.2.1	Results of discharge monitoring	61
11.3.2.2	Results of receiving environment monitoring	62

11.4	Investigations, interventions, and incidents	63
11.5	Discussion	63
11.5.1	Discussion of site performance	63
11.5.2	Environmental effects of exercise of consent	63
11.5.3	Evaluation of performance	63
12	Ravensdown Fertiliser Co-operative Ltd (old site)	66
12.1	Process description	66
12.2	Water discharge permits	67
12.3	Results	67
12.3.1	Inspections	67
12.3.2	Chemical analysis	67
12.3.2.1	Results of discharge monitoring	67
12.3.2.2	Results of groundwater monitoring	69
12.3.3	Receiving environment monitoring	72
12.3.4	Investigations, interventions, and incidents	72
12.4	Discussion	72
12.4.1	Discussion of site performance	72
12.4.2	Environmental effects of exercise of consents	73
12.4.3	Evaluation of performance	73
13	Ravensdown Fertiliser Co-operative Ltd new site	75
13.1	Process description	75
13.2	Water discharge permit	75
13.3	Results	76
13.3.1	Inspections	76
13.3.2	Results of discharge monitoring	76
13.3.3	Investigations, interventions, and incidents	76
13.4	Discussion	77
13.4.1	Discussion of site performance	77
13.4.2	Environmental effects of exercise of consent	77
13.4.3	Evaluation of performance	77
14	Taranaki Sawmills Ltd	79
14.1	Process description	79
14.2	Water discharge permit	80
14.3	Results	80
14.3.1	Inspections	80

	14.3.2	Discharge chemical analysis	80
	14.3.3	Sediment sampling	82
	14.3.4	Investigations, interventions, and incidents	83
14.4		Discussion	83
	14.4.1	Discussion of site performance	83
	14.4.2	Environmental effects of exercise of consent	83
	14.4.3	Evaluation of performance	84
15		Technix Group Ltd	86
	15.1	Process description	86
	15.2	Water discharge permits	87
	15.3	Results	88
	15.3.1	Inspections	88
	15.3.2	Results of discharge monitoring	88
	15.4	Investigations, interventions, and incidents	89
	15.5	Discussion	89
	15.5.1	Discussion of site performance	89
	15.5.2	Environmental effects of exercise of consents	89
	15.5.3	Evaluation of performance	89
16		Waste Management NZ Ltd	93
	16.1	Process description	93
	16.2	Water discharge permit	93
	16.3	Results	94
	16.3.1	Inspections	94
	16.3.2	Results of discharge monitoring	94
	16.3.3	Investigations, interventions, and incidents	94
	16.4	Discussion	95
	16.4.1	Discussion of site performance	95
	16.4.2	Environmental effects of exercise of consent	95
	16.4.3	Evaluation of performance	95
17		Surface receiving water quality	97
	17.1	Chemical analyses	97
	17.1.1	Waiwhakaiho River	97
		17.1.1.1 Wet weather surveys	97
		17.1.1.2 Dry weather surveys	98
	17.1.2	Mangaone Stream	99

	17.1.2.1	Wet weather survey	99
	17.1.2.2	Dry weather surveys	102
17.2		Freshwater biomonitoring programme	102
	17.2.1	Macroinvertebrate surveys	102
	17.2.1.1	Macroinvertebrate survey of 8 February 2019	104
18		Recommendations	106
	18.1	Recommendations from the 2017-2018 report	106
	18.1.1	Alterations to monitoring programmes for 2019-2020	106
	18.1.2	Exercise of optional review of consent	106
	18.1.3	Recommendations	107
		Glossary of common terms and abbreviations	109
		Bibliography and references	112
Appendix I		Resource consents to discharge into the lower Waiwhakaiho River and Mangaone Stream catchments in alphabetical order	

## List of tables

Table 1	Resource consents for discharges to the Mangaone Stream and lower Waiwhakaiho River from New Plymouth industrial area	6
Table 2	Chemical monitoring results for AML's discharge site STW002033	15
Table 3	Summary of performance for AML's consent 4539-2	16
Table 4	Chemical monitoring results for Downer's air scrubber settling ponds site IND002002	20
Table 5	Chemical monitoring results for from Downer' final discharge site MGO000189	20
Table 6	Summary of performance for Downer EDI's consent 3917-3	21
Table 7	Chemical monitoring results for Envirowaste's stormwater to the Mangamiro Stream site STW002092	23
Table 8	Monitoring results for Envirowaste's stormwater to the Mangamiro Stream site STW002091	23
Table 9	Incidents, investigations, and interventions summary table	24
Table 10	Summary of performance for Envirowaste's consent 10109-1	24
Table 11	Chemical monitoring results for Firth site IND002001	27
Table 12	Chemical monitoring results for Firth site STW001080	28
Table 13	Incidents, investigations, and interventions summary table	28
Table 14	Summary of performance for Firth's consent 0392-4	29
Table 15	Chemical monitoring results for discharge FEGL's site STW002001	32
Table 16	Chemical monitoring results for discharge FEGL's site STW001021	32

Table 17	Summary of performance for FEGL's consent 0021-4	33
Table 18	Summary of performance for FEGL's consent 9853-2	34
Table 19	Chemical monitoring results for FBT's discharge site STW001146	37
Table 20	Incidents, investigations, and interventions summary table for FBT	38
Table 21	Summary of performance for FBT's consent 10008-1	39
Table 22	Summary of performance for IBR consent 4548-2 (to 16 January 2019)	42
Table 23	Chemical monitoring results for Nankervis Family Trust site STW001156	44
Table 24	Incidents, investigations, and interventions summary table	45
Table 25	Summary of performance for Nankervis' consent 6965-1	45
Table 26	Chemical monitoring results for Burton Street stormwater site STW001081	50
Table 27	Chemical monitoring results for NPDC McLeod's Drain discharge site STW001001	50
Table 28	Wet weather chemical monitoring results for Struthers Place site WKH000872	51
Table 29	Chemical monitoring results for Vickers Road discharge site STW001020	51
Table 30	Chemical monitoring results for stormwater drain from mid Katere Road to the Mangaone Stream site STW001116	52
Table 31	Chemical monitoring results for stormwater drain from Hurlstone Drive to Mangaone Stream at SH3 site STW001035	53
Table 32	Chemical monitoring results for Bewley Road landfill control bore #3 site GND0556	53
Table 33	Chemical monitoring results for Bewley Road landfill down gradient monitoring bore #1 site GND0548	54
Table 34	Chemical monitoring results for Bewley Road landfill down gradient monitoring bore #2 site GND0555	55
Table 35	Chemical monitoring results for Bewley Road landfill discharge monitoring site WKH000872	55
Table 36	Results for Bewley Road landfill, dry weather receiving water chemical monitoring	56
Table 37	Summary of performance for NPDC's consent 1275-3	58
Table 38	Summary of performance for NPDC's consent 5163-2	58
Table 39	Summary of performance for NPDC's consent 4984-2	59
Table 40	Monitoring results for Smart Road rail yard stormwater discharge-site IND002014	62
Table 41	Receiving environment chemical monitoring results for Smart Road rail yard stormwater discharge to the Mangamiro Stream	62
Table 42	Summary of performance for KiwiRail's consent 1735-3	63
Table 43	Summary of performance for KiwiRail's consent 3528-3	64
Table 44	Chemical monitoring results for Ravensdown's stormwater discharge to McLeod's Drain site IND004002	68
Table 45	Chemical monitoring results for Ravensdown main stormwater discharge to the Mangaone Stream site STW002003	69

Table 46	Chemical monitoring results for the groundwater and Mangaone Stream in the vicinity of Ravensdown's old site for 16 January 2019	70
Table 47	Chemical monitoring results for the groundwater and Mangaone Stream in the vicinity of Ravensdown for 3 April 2019	70
Table 48	Incidents, investigations, and interventions summary table	72
Table 49	Summary of performance for consent 3865-4	73
Table 50	Chemical monitoring results for Ravensdown new site STW002097	76
Table 51	Incidents, investigations, and interventions summary table	77
Table 52	Summary of performance for Ravensdown (new site) consent 10513-1	77
Table 53	Chemical monitoring results for TSM stormwater discharges (not including LOSP pesticides)	81
Table 54	LOSP concentrations in the TSM's discharges	82
Table 55	Mangaone sediment sampling results	82
Table 56	Incidents, investigations, and interventions summary table	83
Table 57	Summary of performance for TSM's consent 3491-2	84
Table 58	Chemical monitoring results for combined Technix/Vickers Road discharge site STW002001	88
Table 59	Chemical monitoring results for combined Technix/Vickers Road discharge site STW001020	88
Table 60	Chemical monitoring results for Technix discharge to the Mangaone-site STW001154	89
Table 61	Summary of performance for Technix's consent 0291-3	89
Table 62	Summary of performance for Technix's consent 9981-1	90
Table 63	Summary of performance for Technix's consent 9982-1	91
Table 64	Chemical monitoring results for WML's transfer station – site STW002098	94
Table 65	Incidents, investigations, and interventions summary table	95
Table 66	Summary of performance for Waste Management's consent 10430-1	95
Table 67	Results of wet weather chemical monitoring of lower Waiwhakaiho River	98
Table 68	Results of dry weather chemical monitoring of lower Waiwhakaiho River	98
Table 69	Results of wet weather chemical monitoring of Mangaone Stream 1 November 2018	100
Table 70	Results of wet weather chemical monitoring of Mangaone Stream 8 November 2018	101
Table 71	Results of chemical monitoring of the Mangaone Stream at Egmont Road for McKechnie Aluminum Solutions Ltd compliance monitoring site MGO000050	102
Table 72	Consents with option to review in June 2020	106

## List of figures

Figure 1	Lower Waiwhakaiho industrial catchment and sampling sites	9
Figure 2	Location of groundwater monitoring bores and associated sampling sites	13
Figure 3	AML Ltd (trading as Allied Concrete) site location and stormwater drainage	14

Figure 4	Downer's site and sampling point locations	18
Figure 5	Envirowaste's site and sampling locations	22
Figure 6	Firth Industries site location and discharge points	26
Figure 7	Technix Group Ltd and Fitzroy Engineering Group Ltd subdivided site	30
Figure 8	Fitzroy Engineering Group Ltd site and stormwater discharge points	31
Figure 9	Location of Freight and Bulk Transport Holdings site	36
Figure 10	Nankervis Family Trust site location and discharge point	43
Figure 11	NPDC stormwater drainage and consented discharge points to the Waiwhakaiho River	47
Figure 12	NPDC stormwater drainage and consented discharge points to the Mangaone Stream	48
Figure 13	KiwiRail's yard and sampling point locations	60
Figure 14	Ravensdown Fertiliser Co-operative Ltd site and sampling point locations	66
Figure 15	Ammoniacal nitrogen concentration at sites GND0517, GND1218, GND2346 and GND1217 from 2006 to June 2019	71
Figure 16	Ravensdown's new site location and discharge point	75
Figure 17	Taranaki Sawmills site and sampling point locations	79
Figure 18	Technix site, drainage system and sampling point locations	86
Figure 19	WML's site and discharge point	93
Figure 20	Biomonitoring sites in the Lower Waiwhakaiho River Catchment	103
Figure 21	Biomonitoring sites in the Waiwhakaiho River Catchment with taxa number, MCI scores and SQMCI scores for each site (20 November 2018).	104
Figure 22	Biomonitoring sites in the Waiwhakaiho River Catchment with taxa number, MCI scores and SQMCI scores for each site (8 February 2019).	105



# 1 Introduction

## 1.1 Compliance monitoring programme reports and the Resource Management Act 1991

### 1.1.1 Introduction

This report is the Annual Report for the period July 2018 to June 2019 by the Taranaki Regional Council (the Council) describing the monitoring programme associated with resource consents held by twelve 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 26<sup>th</sup> 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 Freshwater 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 in each consent holder's site.

**Section 2-16** discusses the results from each individual company covered by this report. Each section has details on process description, resource consents, results of inspections and sampling, an evaluation of performance.

**Section 17** discusses the results, their interpretation, and their significance for the environment in the Waiwhakaiho River or Mangaone Stream as a whole.

**Section 18** presents a summary of recommendations made in relation to the monitoring of each company's activities.

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 *Resource Management Act 1991* (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 socio-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' inasmuch 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 continuously evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

### 1.1.4 Investigations, interventions, and incidents

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

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

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

### 1.1.5 Evaluation of environmental performance

Besides discussing the various details of the performance and extent of compliance by the consent holders during the period under review, this report also assigns a rating as to each company's environmental and administrative performance during the period under review.

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. Administrative performance is concerned with the Company's approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

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

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

#### Environmental Performance

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

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

For example:

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

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

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

#### Administrative performance

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

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

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

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

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved.<sup>1</sup>

### 1.1.6 Recommendations and changes to monitoring programmes

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 should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site(s) 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 2019-2020.

Recommendations for each consent holder are presented in Section 18.1.2.

### 1.1.7 Recommendations for exercising June 2020 review options

Consents which have review option in June 2020 are identified, and recommendations on whether to exercise the review option consent are made.

The recommendations are based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports.

## 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 21 consents were held to discharge stormwater and/or wastewater, and/or 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

<sup>1</sup> The Council has used these compliance grading criteria for 15 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

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 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:

- Requires the consent holder to adopt the best practical option to minimise effects.
- Limits the area from which stormwater can be discharged.
- Requires the use of a stormwater discharge system.
- Limits constituents of the discharge, with specific regard to pH, suspended solids and oil and grease.
- Requires that the discharge does not cause certain effects in the receiving waters.
- Requires 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.
- Requires 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.
- Requires 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	01 Jun 2026	June 2020
Downer EDI Works Ltd	3917-3.0	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	03 May 2017	01 Jun 2032	June 2020
Envirowaste Services Ltd	10109-1.0	To discharge stormwater from an industrial site into the Puremu Stream and an unnamed tributary of the Mangaone Stream	9	20 May 2015	01 Jun 2032	June 2020
Firth Industries Ltd	0392-4.0	To discharge stormwater and treated wastewater into the Waiwhakaiho River	10	06 May 2015	01 Jun 2032	June 2020
Fitzroy Engineering Group Ltd	0021-4.0	To discharge stormwater from an industrial site into the Waiwhakaiho River	10	12 Mar 2015	01 Jun 2032	June 2020
	9853-2.0	To discharge stormwater from an industrial site into the Waiwhakaiho River	10	12 Mar 2015	01 Jun 2032	June 2020
Freight & Bulk Transport Ltd	10008-1.0	To discharge stormwater onto and into land and into the Mangaone Stream	9	05 Jun 2015	01 Jun 2032	June 2020
IBR Holdings Ltd	4548-2	To discharge minor volumes of treated industrial wastewater and up to 128 litres/second of treated stormwater from a former stockfeed milling plant into an unnamed tributary of the Mangaone Stream in the Waiwhakaiho catchment	12	12 Mar 2015	01 Jun 2020	Surrendered
KiwiRail Holdings Ltd	3528-3.0	To discharge stormwater into the Waiwhakaiho River	8	31 Mar 2017	01 Jun 2026	June 2020
New Zealand Railways Corporation	1735-3	To discharge stormwater from the Smart Road Rail Terminal into an unnamed tributary of the Mangaone	9	31 Jul 2009	01 Jun 2026	June 2020

Consent holder	Consent No	Description	Number of conditions	Granted	Expiry date	Next review date
		Stream, and into the Mangaone Stream in the Waiwhakaiho catchment				
Nankervis Family Trust	6965-1	To discharge truck wash water via an interceptor system into the Mangaone Stream in the Waiwhakaiho catchment	10	20 Oct 2006	01 Jun 2020	-
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 confluence with the Waiwhakaiho River...also 1697032E-5677145N, 1696882E-5677087N, 1696734E-5676990N, 1696545E-5677175N, 1696755E-5677622N, 1696757E-5677671N, 1696771E-5677957N, and 1696777E-5677965N	4	10 Jun 2008	01 Jun 2026	June 2020
New Plymouth District Council	4984-2.0	To discharge leachate from a former landfill site into groundwater, adjacent to the Waiwhakaiho River	4	10 Jun 2008	01 Jun 2032	June 2020
New Plymouth District Council	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	01 Jun 2026	June 2020
Ravensdown Ltd	10513-1.0	To discharge stormwater from a fertiliser storage site onto and into land and into the Mangaone Stream	8	02 Feb 2018	01 Jun 2032	June 2020
Ravensdown Ltd (old site)	3865-4.0	To discharge stormwater from a fertiliser storage depot onto and into land and into the Mangaone Stream and into the Waiwhakaiho River	10	17 Oct 2006	01 Jun 2026	June 2020
Taranaki Sawmills Ltd	3491-2	To discharge cooling water and wastewater from a timber drying plant and stormwater from a timber treatment site into the Mangaone Stream in the Waiwhakaiho catchment	17	24 Oct 2014	01 Jun 2020	

Consent holder	Consent No	Description	Number of conditions	Granted	Expiry date	Next review date
Technix Group Ltd	0291-3.0	To discharge stormwater from an industrial site into the Waiwhakaiho River	9	24 Oct 2014	01 Jun 2032	June 2020
	9981-1.0	To discharge stormwater from an industrial site into the Waiwhakaiho River	8	24 Oct 2014	01 Jun 2032	June 2020
	9982-1.0	To discharge stormwater from an industrial site into the Mangaone Stream	8	24 Oct 2017	01 Jun 2032	June 2020
Waste Management NZ Ltd	10430-1.0	To discharge stormwater from a waste depot into an unnamed tributary of the Mangaone Stream	9	27 Oct 2010	01 Jun 2032	June 2018



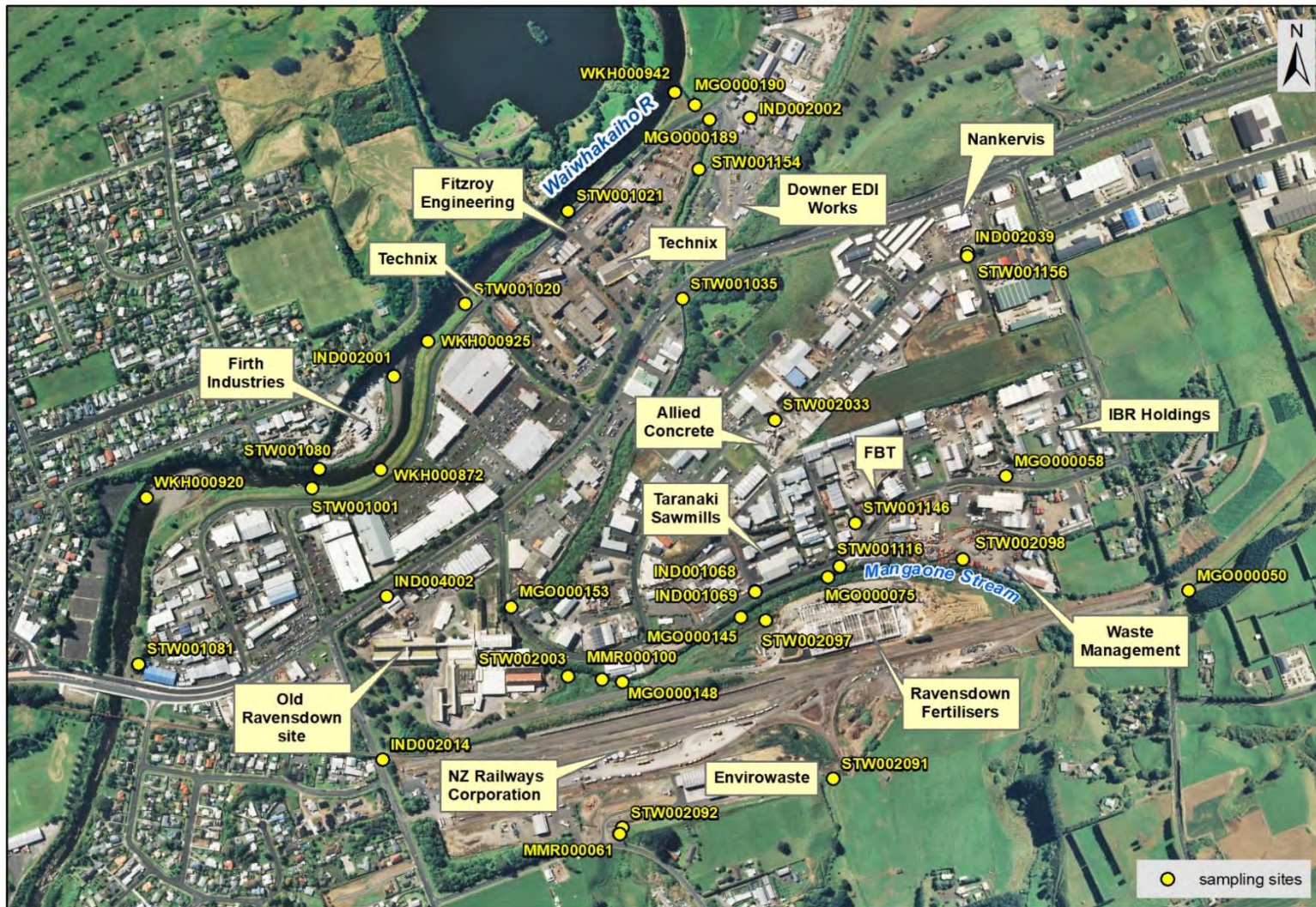


Figure 1 Lower Waiwhakaiho industrial catchment and sampling sites

## 1.3 Monitoring programme

### 1.3.1 Introduction

Section 35 of the RMA sets out 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 in the 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 39 inspections during the monitoring period. Inspections focussed 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 accessed, 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.

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 sometimes be carried out separately.

Wet weather sampling was carried out on 26 October 2018 and 4 January 2019 for the Waiwhakaiho River and 26 October and 1 November 2018 for the Mangaone Stream resulting in 25 surface water samples being taken for analysis.

#### 1.3.4.2 Discharge sampling

In conjunction with wet weather inspections and wet weather river surveys, 36 samples were taken for analysis.

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 17.

#### 1.3.4.3 Groundwater surveys

Groundwater sampling was undertaken in the vicinity of the old Bewley Road landfill, with total of 14 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 Ravensdown 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.

#### 1.3.4.4 Streambed sediment sampling

Dry weather sampling of the Mangaone Stream sediments is scheduled to be carried out every other year and were undertaken in the 2018-2019 monitoring period. This focuses on the contaminants that may be present in the past and present discharges from the Taranaki Sawmills site.

### 1.3.5 Biomonitoring surveys

Biological surveys are used to determine the impacts that discharges may cause over a period of time, as distinct from chemical surveys which give detailed information upon the constituents of a discharge at the time of sampling but cannot give information upon 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 2018-2019 period, these surveys were conducted on 20 November 2018 and 8 February 2019. The locations of the biomonitoring sites are shown in Figure 21 and Figure 22. A summary of the findings is discussed in Section 17.2.

#### 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, and to ensure that discharges to the Mangaone Stream are not presenting a barrier to upstream migration. Fish surveys are scheduled on a triennial basis were not undertaken in this period and will next be undertaken in the 2020-2021 monitoring period.

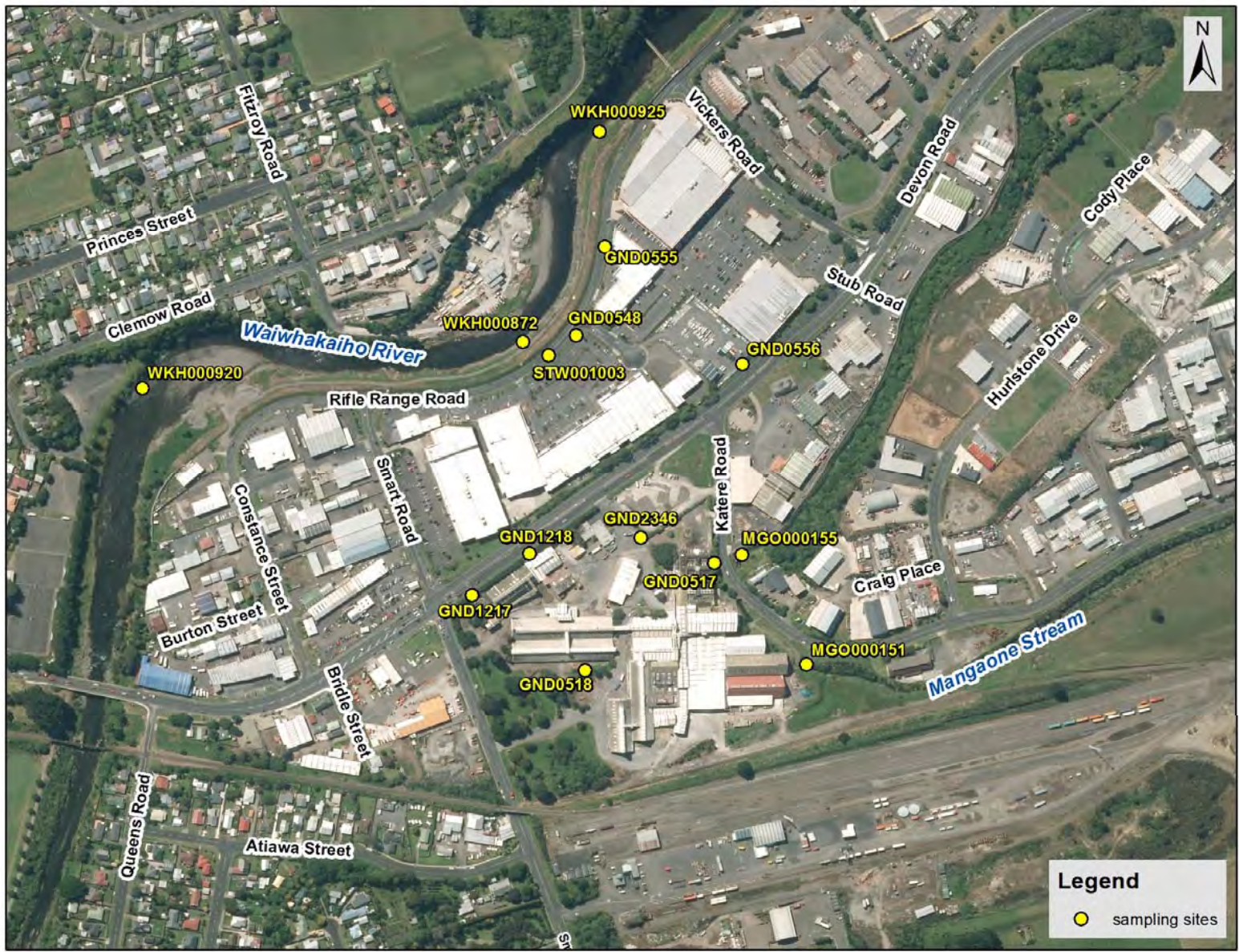


Figure 2 Location of groundwater monitoring bores and associated sampling sites

## 2 AML Ltd (trading as Allied Concrete)

### 2.1 Process description

AML Ltd's (AML) concrete batching plant at 67 Hurlstone Drive is one of four such plants it 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 AML Ltd (trading as Allied Concrete) site location and stormwater drainage

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 m<sup>3</sup> bins and allowed to settle for at least 18 hours before treatment through an additional series of six settlement ponds totalling approximately 360 m<sup>3</sup> 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.

## 2.2 Water discharge permit

AML holds water discharge permit 4539-2 to cover the discharge stormwater and treated wastewater from truck washing at a concrete batching plant into the Mangaone Stream in the Waiwhakaiho catchment. This permit was issued by the Council on 30 July 2008 under Section 87(e) of the RMA. It is due to expire on 1 June 2026.

It contains the standardised special conditions as set out in Section 1.2.

The permit is attached to this report in Appendix I.

## 2.3 Results

### 2.3.1 Inspections

AML's site was inspected on 4 October 2018 and 3 May 2019.

Inspections focussed on the cleanliness of the site, the driveway collection sump, soakage pits, treatment ponds, sand filters and fuel storage.

During a previous inspection (6 June 2018) there were non-compliances in regards to conditions one, three and seven of consent 4539-1. The site's treatment systems were not being maintained and heavy product tracking was observed on the yard and roadside. An abatement notice was issued directing AML to undertake works to ensure compliance with consent conditions. It was noted during the inspection on 4 October 2018 and 3 May 2019 that the water treatment ponds had been improved and appeared to be working well. New bunding and drainage systems had been installed and there was no overflow from the treatment systems. Minimal tracking from the site was noted. The site was fully compliant with consent conditions and the abatement notice.

### 2.3.2 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).

Results for the 2018-2019 monitoring of the stormwater/wastewater, where it leaves the concrete plant at site STW002033 are presented in Table 2.

The results for the stormwater drain at the Mangaone Stream (site STW001035) are given in Section 10.3.1.8, whilst the results of the receiving water (i.e. for the purposes of monitoring compliance with consent conditions) are given in Section 17.1.2.

**Table 2** Chemical monitoring results for AML's discharge site STW002033

Parameter	Conductivity @25°C	Oil and Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
08 Nov 2018	86.5	<b>b</b>	11.6	38	17.6	17.4
27 Mar 2019	34.3	<b>b</b>	8.0	44	21.2	44
<i>Consent limits</i>	-	15	-	100	-	-

**Key:** Results shown in bold within a table indicates that a consent limit for a particular parameter has been exceeded  
 b no visible hydrocarbon sheen and no odour

Both samples were found to compliant with consent conditions.

## 2.4 Discussion

### 2.4.1 Evaluation of plant performance

During inspections it was noted that significant improvements had been made to the site in regards to the control and treatment of stormwater and waste water. An up to date stormwater management plan and contingency plan is in place.

### 2.4.2 Environmental effects of exercise of consent

Alkaline discharges from this site have the potential to influence not only the pH of the NPDC stormwater discharge at the State Highway 3 Bridge and downstream receiving water, but also the unionised ammonia concentration. Unionised ammonia is potentially in the receiving environment at relatively low concentrations (less than 0.025 g/m<sup>3</sup>) and the equilibrium that exists between ammoniacal nitrogen and unionised ammonia is affected by pH. In alkaline conditions the equilibrium is shifted towards the more toxic unionised ammonia.

Imposing a pH control limit on the receiving water as opposed to the discharge still appears to be an appropriate control mechanism. Monitoring results during the period under review continued to show that, whilst the pH of the discharge is quite alkaline, this 'effect' appears to be assimilated within the NPDC reticulated stormwater network and/or the receiving water.

### 2.4.3 Evaluation of performance

A tabular summary of the AML's compliance record for the period under review is set out in Table 3.

Table 3 Summary of performance for AML's consent 4539-2

<b>Purpose: To discharge of stormwater and treated concrete truck washings</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
1. Adoption of best practicable option to minimise effects	Observation and discussion at inspection	Yes
2. Limit on stormwater catchment area	Observation and discussion at inspection	Yes
3. Bunding of above ground hazardous substance storage	Observation at inspection	No
4. Discharge cannot cause specified general adverse effects beyond mixing zone	Sampling and discharge point inspections	Yes
5. Concentration limits upon potential contaminants in discharge	Chemical sampling	Yes
6. pH limits on receiving water as a result of discharge	Chemical sampling	Yes
7. Maintenance of and adherence to contingency plan	Review of documentation received	Yes
8. Preparation and maintenance of operation and management plan. Initially due January 2009	Review of documentation received	Yes



<b>Purpose: <i>To discharge of stormwater and treated concrete truck washings</i></b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
9. Written notification of changes	Observation and discussion at inspection found no changes requiring notification	N/A
10. Optional review provision re environmental effects	Next opportunity for review June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

During the period under review, AML Ltd demonstrated a high level of administrative and environmental performance and compliance, with their resource consent as defined in Section 1.1.5.

## 3 Downer EDI Works Ltd

### 3.1 Process description

Downer EDI Works Ltd (Downer) operates an asphalt manufacturing plant at a site off Rifle Range Road. A depot for maintenance, parking and storage of equipment and materials used in road-making is also on the site.

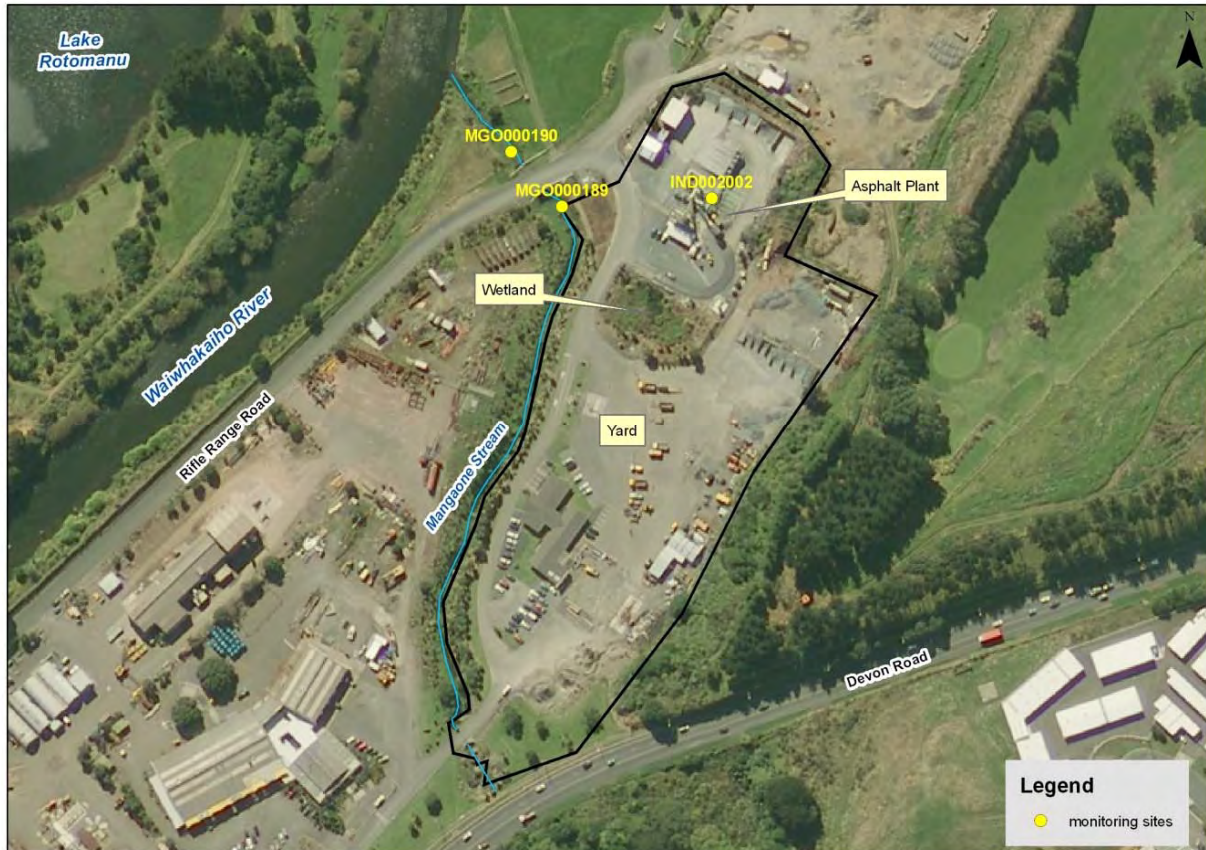


Figure 4 Downer's site and sampling point locations

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, bunded 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.

Stormwater from this area drains via a three-stage oil separator to a small constructed wetland that also receives piped water from springs. 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 baffled outlet to contain floatables) and the depot both discharge via the small wetland, to the Mangaone Stream immediately above the Rifle Range Road Bridge.

## 3.2 Water discharge permit

Downer operates an asphalt drum plant that is situated on the right bank of the Mangaone Stream near its confluence with the Waiwhakaiho River, on Rifle Range Road. Ownership of the plant has changed several times, with Works Civil Construction previously taking over the site from Technic Industries Ltd in November 1997.

Downer holds consent 3917-3 to discharge treated stormwater from an asphalt manufacturing plant onto land and into the Mangaone Stream. This was granted by the Council under Section 88 of the RMA on 20 June 2015. It is due to expire on 1 June 2032.

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.

## 3.3 Results

### 3.3.1 Inspections

During the period under review Downer's Rifle Range Road site was inspected on two occasions. These were on, 1 May 2019 and 28 June 2019.

Site inspections focussed on treatment systems, site housekeeping, visual quality of discharges, dust and odour, and the receiving waters.

During both inspections the site was found to be compliant, noting that potential sources of contamination had been removed from the stormwater catchment and the yard appeared tidier than usual.

### 3.3.2 Results of discharge monitoring

Chemical monitoring of discharges from the site of Downer EDI Works Ltd takes place at two points. The effluent to the wetland from the settling ponds at the asphalt plant is sampled at the ponds' outlet (site code IND002002). The combined flow of stormwater from the depot, which is treated in the oil separator and constructed wetland, and the pond effluent is sampled at the outlet to the Mangaone Stream (site MGO000189).

The discharge from the settling 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 pond effluent and combined flows for the period under review are given in and Table 4 and Table 5. A summary of all results for each site is also given in the tables.

Table 4 Chemical monitoring results for Downer's air scrubber settling ponds site IND002002

Parameter	Conductivity @25°C	Oil and Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
08 Nov 2018	45.1	b	7.7	116	20.6	172
01 Apr 2019	62.7	b	7.1	52	-	31

Key: b parameter not determined, no visible hydrocarbon sheen and no odour

Table 5 Chemical monitoring results for from Downer' final discharge site MGO000189

Parameter	Conductivity @25°C	Oil and Grease	pH	Suspended solids	Temp
Units	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C
08 Nov 2018	20.4	b	7.0	94	15.9
01 Apr 2019	29.6	b	7.0	<3	-
<i>Consent Limits</i>	-	15	6-9	100	-

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour

During the period under review the levels of suspended solids, pH and oil and grease were in compliance with the consented limits. It was noted that the concentration of suspended solids in the final discharge was approaching the consent limit on one occasion. However, receiving water results indicate no adverse effects were occurring in the Mangaone Stream during discharges (see Section 17.1.2).

### 3.3.3 Investigations, interventions, and incidents

In the 2018-2019 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Downer's conditions in resource consents or provisions in Regional Plans.

## 3.4 Discussion

### 3.4.1 Discussion of site performance

Housekeeping at the site was found to be good over the monitoring period and some improvements were noted in regard to the removal of potential sources of contamination from the stormwater catchment.

Stormwater management and contingency plans are up to date for this site.

### 3.4.2 Environmental effects of exercise of consent

No adverse effects were noted on the water quality in the Mangaone Stream as a result of the exercise of Downer's water permit.

### 3.4.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 6.

Table 6 Summary of performance for Downer EDI's 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	Inspection	Yes
2. Limit on catchment size	Inspection	Yes
3. Limits on contaminants in discharge	Not assessed during the period this consent was active	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	Inspection and programme supervision	Yes
6. Maintain and adhere to a spill contingency plan	Inspection 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 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

During the period under review, Downer EDI Works Ltd demonstrated a high level of environmental and high level of administrative performance and compliance with their resource consent in relation to its site at Rifle Range Road, as defined in Section 1.1.5.

## 4 Envirowaste Services Ltd

### 4.1 Process description

Envirowaste Services Ltd (Envirowaste) operates a material recovery facility (MRF) on Colson Road. 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 5 Envirowaste's site and sampling locations

### 4.2 Water discharge permit

Envirowaste holds consent 10109-1 to discharge stormwater from an industrial site into the Puremu Stream and an unnamed tributary of the Mangaone Stream.

This was granted by the Council under Section 88 of the RMA on 6 May 2015. It is due to expire on 1 June 2032.

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.

### 4.3 Results

#### 4.3.1 Inspections

During the period under review the Envirowaste site was inspected on two occasions on 1 May 2019 and 28 June 2019.

Site inspections focussed on treatment systems, site housekeeping, visual quality of discharges, dust and odour, and the receiving waters.

It was noted on 1 May 2019 that litter in and around the ring drain needed to be removed to ensure that the stormwater system functioned correctly. Litter around the site was also noted to be an issue on the inspection of 28 June 2019. The issue of litter at the site was discussed with the site operator and a follow-up inspection undertaken in the next monitoring period found the site to be clean and tidy.

### 4.3.2 Results of discharge monitoring

Chemical monitoring of discharges from the Envirowaste site takes place at two points. Stormwater discharging to the Puremu Stream is sampled at STW0002091 whilst stormwater discharging to the Mangamiro Stream is sampled at STW002092.

During the period under review, only one of the sites was found to be discharging during sampling visits. The results of the discharge sampling are given in Table 7 and Table 8.

**Table 7** Chemical monitoring results for Envirowaste's stormwater to the Mangamiro Stream site STW002092

Parameter	Ammoniacal nitrogen	Conductivity @25°C	Oil and Grease	pH	Suspended solids	Temp	Un-ionised ammonia
Unit	g/m <sup>3</sup> N	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	g/m <sup>3</sup>
01 Nov 2018	<0.010	10.1	b	7.0	12	14.7	0.00002
01 Apr 2019	<0.010	9.0	b	7.0	7	20.0	<0.00004
<i>Consent limits</i>	-	-	15	6-9	100	-	-

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour

**Table 8** Monitoring results for Envirowaste's stormwater to the Mangamiro Stream site STW002091

Parameter	Ammoniacal nitrogen	Conductivity @25°C	Oil and Grease	pH	Suspended solids	Temp	Un-ionised ammonia
Units	g/m <sup>3</sup> N	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	g/m <sup>3</sup>
01 Nov 2018	nd	nd	nd	nd	nd	nd	nd
01 Apr 2019	nd	nd	nd	nd	nd	nd	nd
<i>Consent limits</i>	-	-	15	6-9	100	-	-

**Key:** Results shown in bold within a table indicates that a consent limit for a particular parameter has been exceeded

b parameter not determined, no visible hydrocarbon sheen and no odour, nd= no discharge

All results were found to be compliant with consent conditions.

Receiving water results indicate no adverse effects were occurring in the Mangamiro or Mangaone Stream during discharges (see Section 17.1.2).

### 4.3.3 Investigations, interventions, and incidents

Table 9 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to Envirowaste's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 9 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
01/05/2019	During inspection, it was noted that litter in and around the ring drain needed to be removed to ensure that the stormwater system functioned correctly.	N	Discussion with consent holder.	Follow up inspection found the site to be tidy. Environmental impact of this incident was considered to be low.

#### 4.3.4 Discussion of site performance

During the monitoring period housekeeping at the site was found to need improvement, especially in regards to windblown litter. This matter was rectified by consultation with the consent holder and a follow up inspection which found the site to be compliant.

Stormwater management and contingency plans are up to date for this site.

#### 4.3.5 Environmental effects of exercise of consent

No adverse effects were noted on the water quality in the Puremu, Mangamiro or Mangaone Streams as a result of the exercise of Envirowaste's water permit.

#### 4.3.6 Evaluation of performance

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

Table 10 Summary of performance for Envirowaste's consent 10109-1

<b>Purpose: To discharge stormwater from an industrial site into the Puremu Stream and an unnamed tributary of the Mangaone Stream</b>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practical option	Inspection	Yes
2. Limit on catchment size	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 stormwater management plan	Plan provided April 2015	No- litter not controlled
6. Maintain and adhere to a spill contingency plan	Plan provided April 2015	Yes
7. Notify the Council of changes at site	No notification received	N/A
8. Lapse condition	Consent exercised	N/A



<b>Purpose: To discharge stormwater from an industrial site into the Puremu Stream and an unnamed tributary of the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
9. Provision for review of consent	Next opportunity for review June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>Good</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

During the period under review, Envirowaste Services Ltd demonstrated a good level of environmental and high level of administrative performance and compliance with their resource consent, as defined in Section 1.1.5.

## 5 Firth Industries Ltd (Division of Fletcher Concrete and Infrastructure Ltd)

### 5.1 Process 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. 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 is also on the site. This includes a bedding plant, which operates from an area above the escarpment.

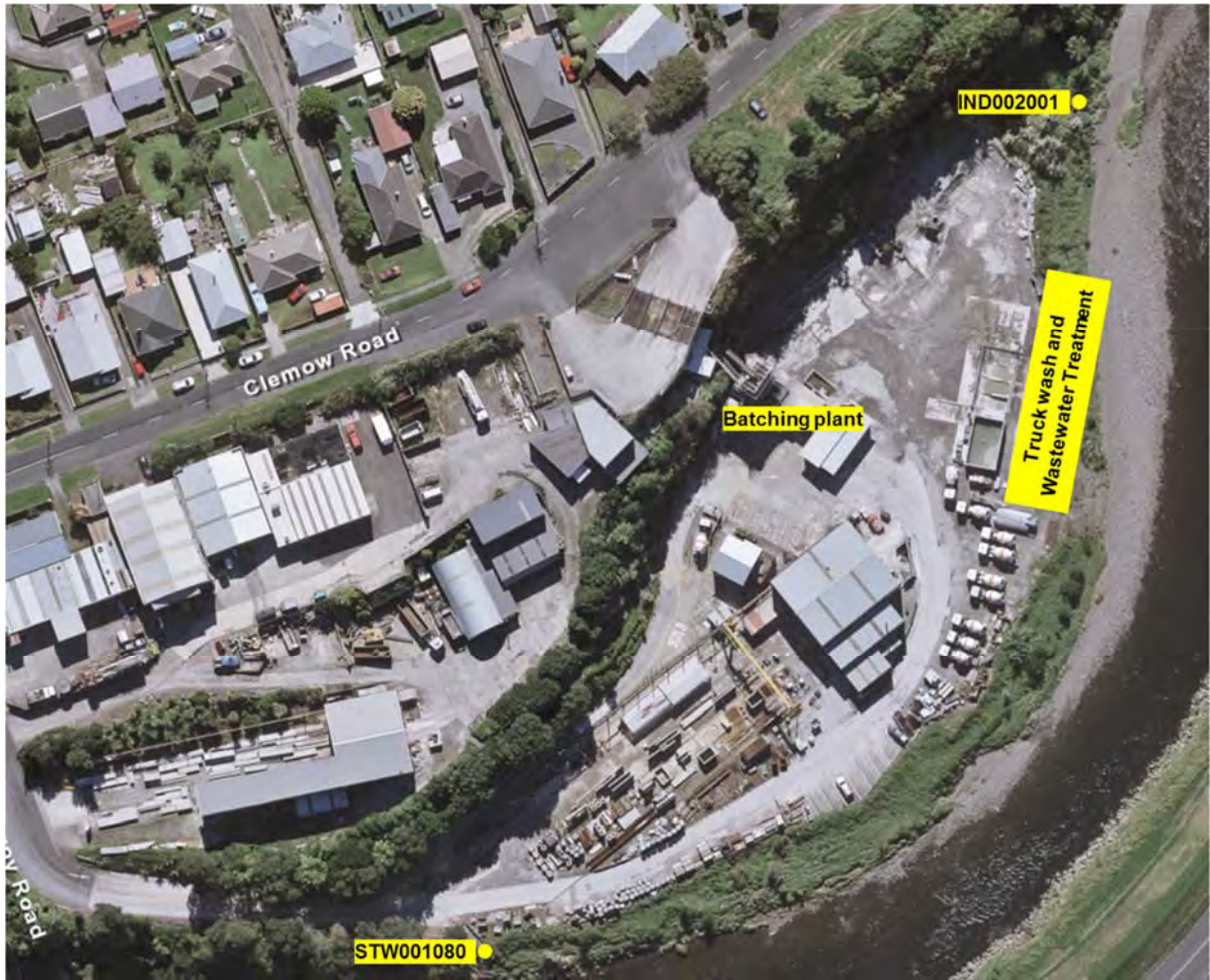


Figure 6 Firth Industries site location and discharge points

Stormwater from the lower part of the site is treated in a four-pond settling system before being pumped to the Waiwhakaiho River via an old watercourse. 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.

## 5.2 Water discharge permit

Firth holds consent 0392-4 to discharge stormwater and treated wastewater into the Waiwhakaiho River. This consent was granted by the Council on 21 July 2015 and expires on 1 June 2032.

Consent 0392-4 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.

## 5.3 Results

### 5.3.1 Inspections

Firth's site was inspected on two occasions during the period under review. Inspections focussed on general housekeeping, treatment systems, dust and odour, and discharge and receiving waters quality.

Inspections were undertaken on 27 November 2018 and 2 May 2019. No issues were raised during inspections and the site was clean and tidy. It was noted that continual improvements were being made to the site, such as vegetation removal, bunding and loading area development.

### 5.3.2 Results of discharge monitoring

Effluent from Firth's site is monitored where it enters the Waiwhakaiho River below the main settling system. This site receives wastewater from the settling pond from the bedding plant, located above the escarpment to the south west of the main plant, and stormwater runoff from the adjacent property (which is not owned by Firth, but is within the area covered by their resource consent).

Consent conditions require that the discharges do not exceed 15 g/m<sup>3</sup> oil and grease or 100 g/m<sup>3</sup> 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.

The results for the stormwater drain at the Waiwhakaiho River (site IND002001) are given in Table 11. The results of the receiving water (i.e. for the purposes of monitoring compliance with consent conditions) are given in Section 17.

Table 11 Chemical monitoring results for Firth site IND002001

Parameter	Conductivity@25°C	Oil And Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
26 Oct 2018	31.2	b	9.6	<3	16.1	1.7
27 Nov 2018	29.8	b	8.9	8	18.0	10.1
<i>Consent limit</i>	-	15	-	100	-	-

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour (deemed to be less the 2 g/m<sup>3</sup>)

The sample taken during the period under review had no visual hydrocarbons and complied with consent limits for oil and grease, pH and suspended solids. Receiving water results also show that at the time of sampling, that the pH in the Waiwhakaiho River, just beyond the mixing zone, was within the consented limits.

The discharge at the upper site was visited on two occasions to undertake sampling, the results of these are given in Table 12.

Table 12 Chemical monitoring results for Firth site STW001080

Parameter	Conductivity @25°C	Oil And Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
08 Nov 2018	21.1	c	7.7	10	17.0	6.4
01 Apr 2019	11.4	b	7.6	<b>175</b>	-	48
Consent limit	-	15	-	100	-	-

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour  
C slight sheen detected in trickle discharge

The sample obtained from site STW001080 on 8 November 2018 complied with consent conditions. The sample taken on 1 April 2019 was not compliant with a concentration of suspended solids of 175 g/m<sup>3</sup>. No effects were noted in the mixing zone as the discharge was of relatively low flow at the time. The consent holder was informed and follow up sample taken early in the next monitoring period was found to be compliant.

### 5.3.3 Investigations, interventions, and incidents

Table 13 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to Firth's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 13 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
01/04/2019	Sampling results showed a breach in suspended solids concentration consent limit.	N	Discussion with consent holder.	No effects were noted in the mixing zone as the discharge was of relatively low flow at the time. Follow up sampling was found to be compliant.

## 5.4 Discussion

### 5.4.1 Discussion of site performance

In terms of housekeeping practices, the Firth facilities were generally well managed during the period under review.

During the monitoring period all samples were compliant with consent conditions and continued works had been undertaken to make improvements at the site. There was one noncompliant sample however and a follow up sample was found to comply with consent conditions.

Stormwater and contingency for this site are in place and up to date.

## 5.4.2 Environmental effects of exercise of consent

Imposing a pH control limit on the receiving water as opposed to the discharge still appears to be an appropriate control mechanism. Whilst the pH level of the discharges is quite alkaline, this was assimilated within the receiving water with little, if any, effect observed in the Waiwhakaiho River.

## 5.4.3 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 Firth's 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	Inspection and programme supervision	Yes
2. Stormwater catchment not to exceed 1.618 ha	Inspection	Yes
3. Stormwater treatment system to be used	Inspection	Yes
4. Limits on contaminants in discharge	Sampling	No – one noncompliant suspended solids result
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	Inspection and programme supervision	Yes
7. Maintain and adhere to a stormwater plan	Inspection and programme supervision	Yes
8. Undertake improvements as set out in the management plan by 22 February 2016	Inspection	Plant completed
9. Notify Council of any changes at the site	Inspection and liaison with consent holder	Yes
10. Review condition	Next opportunity for review June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>Good</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

During the period under review, Firth Industries Ltd demonstrated a good level of environmental and high level of administrative performance and compliance with their resource consent in relation to its Clemow Road site as defined in Section 1.1.5.

## 6 Fitzroy Engineering Group Ltd

### 6.1 Process description

Fitzroy Engineering Group Ltd (F EGL) 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 by FEGL from Technix Group Ltd (TGL), and the stormwater discharges from FEGL's activities were covered under consents held by TGL. In 2013 FEGL purchased the part of the property they operate on from TGL (Figure 7). After the purchase of the property resource consent 0021-3 was transferred from TGL to FEGL. Resource consent 0291-3 was split into two consents as the northern area covered by this consent was now owned by FEGL. The consent number assigned to this catchment area was consent number 9853.



Figure 7 Technix Group Ltd and Fitzroy Engineering Group Ltd subdivided site

The stormwater area for consent 0021 covers the south-west section of FEGL'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, Figure 8). There are multiple sumps along this system to collect stormwater.

The buildings/land use within this area includes:

- Staff offices and facilities,
- Workshops (Machining, plate and general),
- Dangerous goods storage,
- Liquid oxygen tanks, and
- Blast and paint storage.

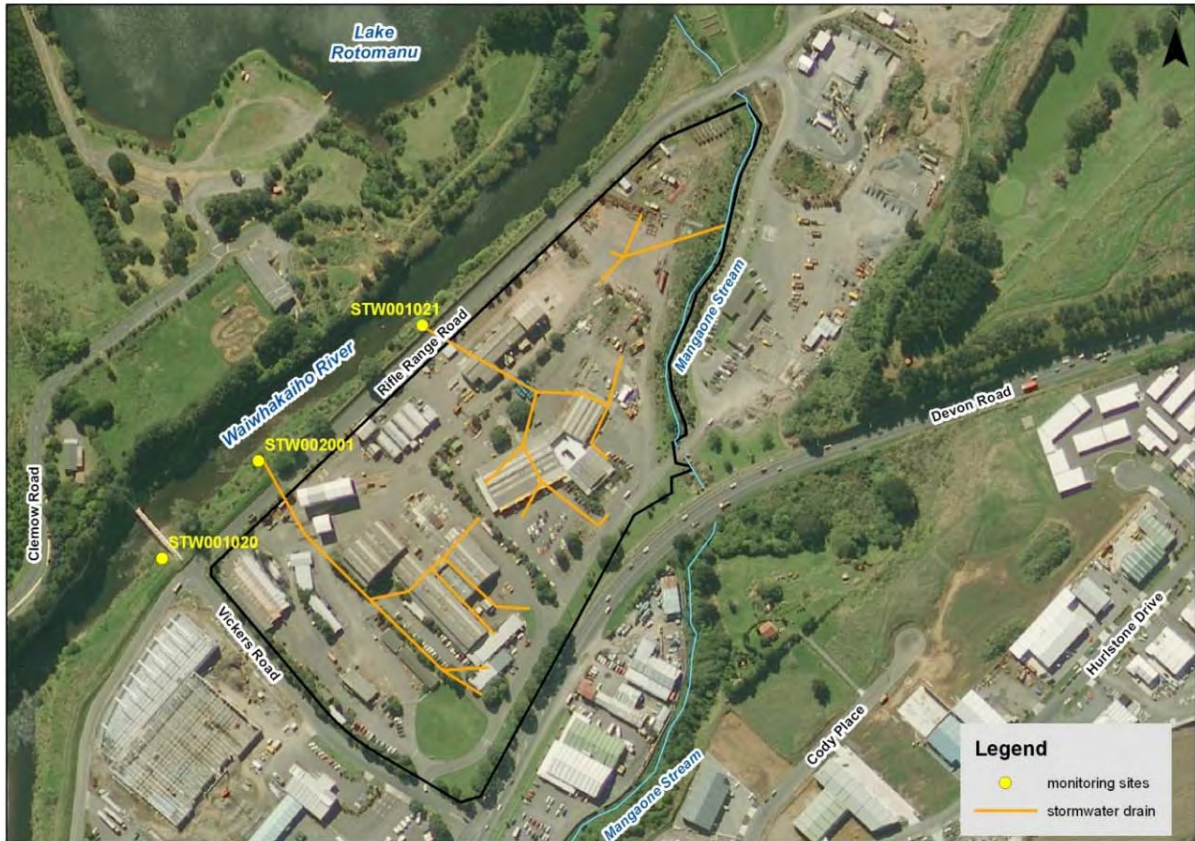


Figure 8 Fitzroy Engineering Group Ltd site and stormwater discharge points

The drainage system for the discharge covered by consent 9853 begins in the adjacent Technix property, continues north through FEGL'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.

FEGL 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. FEGL has advised that the wastewater from these processes will be banded using tarpaulin sheets, and any drains will be blocked with sandbags. Once that activity is finished the waste will be removed by a waste management specialist.

FEGL has provided a stormwater management plan and spill contingency plan.

## 6.2 Water discharge permits

FEGL hold two consents to discharge stormwater (consents 0021-4 and 9853-2). These contain the standardised conditions given section 1.2. Two of these have been modified to 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.

## 6.3 Results

### 6.3.1 Inspections

The site was inspected on three occasions during the monitoring period. These were on 6 December 2018, 1 May and 30 June 2019. The inspections focussed on housekeeping, evidence of spills, the state of the onsite drains, and dust/odour.

The site was found to be compliant during all the inspections. However some potential emergent issues in regards to dust accumulation and drain filter maintenance was noted and communicated to the consent holder.

### 6.3.2 Results of discharge monitoring

There are two routine sampling points for monitoring of stormwater discharges from FEGL site to the Waiwhakaiho River. These sampling points are opposite FEGL's plate shop (consent 0021, site STW002001), and opposite FEGL's blast and paint shop (consent 9853, site STW001021). The latter discharge point also contains stormwater, and potentially truck wash wastewater from the area covered by Technix's consent 0291.

Table 15 Chemical monitoring results for discharge FEGL's site STW002001

Parameter	Conductivity @25°C	Oil and Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
08 Nov 2018	8.5	b	7.4	11	16.6	13.6
<i>Consent limits</i>	-	15	6-9	100	-	-

**Key:** Results shown in bold within a table indicates that a consent limit for a particular parameter has been exceeded  
 b parameter not determined, no visible hydrocarbon sheen and no odour

Table 16 Chemical monitoring results for discharge FEGL's site STW001021

Parameter	Conductivity @25°C	Oil and Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
08 Nov 2018	6.8	b	7.4	25	17.4	43
1 Apr 2019	17.3	b	7.0	13	-	13.6
<i>Consent limits</i>	-	15	6-9	100	-	-

**Key:** Results shown in bold within a table indicates that a consent limit for a particular parameter has been exceeded  
 b parameter not determined, no visible hydrocarbon sheen and no odour

The values for pH, suspended solids, and oil and grease at both sites were all within the consented limits.



### 6.3.3 Investigations, incidents and enforcement

In the 2018-2019 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the FEGL's conditions in resource consents or provisions in Regional Plans.

## 6.4 Discussion

### 6.4.1 Discussion of site performance

Improvements were noted at the site in this period and there was no need for enforcement action as was required last year.

Stormwater management and contingency plans are in place up to date for this site.

### 6.4.2 Environmental effects of exercise of consents

No effects were noted beyond the mixing zone in the receiving waters during sampling and inspections.

### 6.4.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in, Table 17 and Table 18.

Table 17 Summary of performance for FEGL's consent 0021-4

<b>Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
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	Not undertaken during monitoring period	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 2018	Yes
8. Maintain and update and adhere to Stormwater Management Plan	Review of documentation received. Latest version received 2018	Yes
9. Notification prior to significant changes to processes or operations	Inspections and liaison with consent holder – no significant changes during period	N/A

<b>Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
10. Provision for review of consent	Next option for review in June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

Table 18 Summary of performance for FEGL's consent 9853-2

<b>Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
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 hydrotesting	Not undertaken during monitoring period	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 2018	Yes
8. Site to operate in accordance with a Stormwater Management Plan	Review of documentation received. Latest version received 2018	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 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

During the period under review, Fitzroy Engineering Group Ltd demonstrated a high level of environmental and administrative performance and compliance with their resource consent as defined in Section 1.1.5 in relation to its Rifle Range Road site.

## 7 Freight and Bulk Transport Holdings Ltd

### 7.1 Process description

Freight and Bulk Transport Holdings Ltd (FBT) operate a truck depot that services the rural sector from this 1.77 ha site on Katere Road.

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 9 Location of Freight and Bulk Transport Holdings site

FBT 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 monitoring period a new truck wash has been installed that recycles wash water and discharges contaminants to trade waste.

### 7.2 Water discharge permit

FBT holds consent 10008-1 to discharge stormwater onto and into land and into the Mangaone Stream. This consent was issued by the Council under Section 87(e) of the RMA on 5 June 2015 and it is due to expire on 1 June 2032.

Consent 10008-1 contains nine standard special conditions set out in Section 1.2.

A copy of consent 10008-1 is attached to this report in Appendix I.

## 7.3 Results

### 7.3.1 Inspections

Routine inspections were undertaken on two occasions during the monitoring period. These were on 25 September 2018 and 30 May 2019. The inspections focussed on the truck wash treatment system, product tracking, general housekeeping, stormwater drains and the receiving waters.

During the inspection of 25 September 2018, no stormwater was discharging from the site, however issues around loading area and tracking to the stormwater system were noted. The truck wash had been decommissioned, however the submersible pump located in the old truck wash wedge is still able to and likely to discharge contaminated stormwater into the system. This would need to be removed or some form of control put in place. There was a heavy amount of tracking of stock feed throughout the northern side of the yard which was discharging beyond the boundary into neighbouring properties. An explanation was given that the doors for the loading bay were not working properly. An abatement notice was issued in regards to the breach of the Regional Air Quality Plan for Taranaki.

During the inspection of 30 May 2019 the site had vastly improved with a new truck wash and tradewaste diversion in place. The site was found to be tidy and found to compliant with resource consent conditions and the abatement notice.

### 7.3.2 Results of discharge monitoring

The primary site for monitoring discharges from FBT's site is the stormwater drain located on the western most driveway (site STW001146). This was sampled on two occasions during the period under review. The results are given in Table 19. One sample had a carbonaceous biochemical oxygen demand (BODC) and suspended solids concentration in exceedance of consented limits. A 14 day letter requiring an explanation was issued.

Table 19 Chemical monitoring results for FBT's discharge site STW001146

Parameter	Ammoniacal nitrogen	BODC	Conductivity @25°C	DRP	Oil and Grease	pH	Suspended solids	Temp.
Unit	g/m <sup>3</sup> N	g/m <sup>3</sup>	mS/m	g/m <sup>3</sup> P	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C
02 Oct 2018	0.016	15	31.4	0.94	b	7.7	35	14.0
01 Nov 2018	0.24	<b>25</b>	26.7	0.53	b	7.5	<b>107</b>	15.2
<i>Consent limits</i>	-	15	-	-	-	6-9	100	-

**Key:** Bold = non compliance

### 7.3.3 Investigations, interventions, and incidents

Table 20 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to the Company's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 20 Incidents, investigations, and interventions summary table for FBT

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
1/11/2018	Exceedance of BODC and suspended solids in discharge	N	14 Day letter	Explanation received-works undertaken
25/09/2018	A significant amount of palm kernel had been tracked into the yard and various stormwater collections. There was a large amount of tracking and stock feed throughout the northern side of the yard which was discharging beyond the boundary into neighbouring properties. Non-compliance with consent and Regional Air Quality Plan for Taranaki	N	Abatement notice	Re-inspection found the consent and abatement notice were being complied with. A new truck wash facility had been installed.

## 7.4 Discussion

### 7.4.1 Discussion of site performance

There were issues in regard to the level of suspended solids and biochemical oxygen demand in the discharge. At the time of writing this report major works had been undertaken at the site to remedy the issue.

Just prior to the period under review the consent permitting the discharge of truck wash water to soak holes expired and the FBT stopped using the truck wash facility and filled the truck wash receiving sump. A new truck wash that recycles water and diverts contaminants to trade waste was subsequently installed and the site in general was found to be more tidy and organised.

An up to date stormwater management plan is in place for this site.



Photo 1 FBT's new truck wash treatment system.

## 7.4.2 Environmental effects of exercise of consent

No adverse effects were noted on the water quality in the Mangaone Stream as a result of the exercise of FBT's activities as shown in the surface water monitoring section of this report (Section 17). Concentrations of filtered carbonaceous biochemical oxygen demand (BODCF) and unionised ammonia downstream of the site were found to be within guideline limits. No sewage fungus or other heterotrophic growths were noted in the stream during inspections.

## 7.4.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 21.

Table 21 Summary of performance for FBT's consent 10008-1

<b>Purpose: To discharge stormwater onto and into land and into the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
1. Adopt best practical option	Inspection and programme supervision	No- insufficient control of contaminant entering stormwater
2. Stormwater catchment not to exceed 1.77 ha	Inspection	Yes
3. Limits on contaminants in discharge	Sampling	No – exceedances in BODC and suspended solids
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	Inspection and programme supervision	No – issues with stormwater discharge noted above
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	Next option for review in June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		<b>Improvement Required</b> <b>High</b>

During the period under review, an improvement in Freight and Bulk Transport Holdings Ltd's level of environmental performance and compliance is required as defined in Section 1.1.5. There were ongoing issues in regards to elevated BODC and suspended solids in the discharge and one abatement notice issued in regard to dust emissions. It is noted however that a significant investment in site improvements were

made in the latter part of the period to address these issues. Freight and Bulk Transport Holdings Ltd demonstrated a high level of administrative performance.



## 8 IBR Holdings Ltd

### 8.1 Process description

Until recently the decommissioned New Plymouth Feed Mill site was occupied by Farmlands Co-operative Society Ltd (Farmlands) and had been in operation 1966 to 2011. Raw grain and supplements were processed into feed for central North Island divisions of PCL Industries Ltd and then Viterra (NZ) Ltd. The site is now occupied by its owner, IBR Holdings Ltd (IBR). The feed store has been completely dismantled and the site has been re-sealed and now serves as a light industry estate.

### 8.2 Water discharge permit

IBR holds consent 4548-2 to discharge stormwater from a former feed mill site. It was granted by the Council on 1 January 2002 and will expire on 1 June 2020.

This consent contains nine of the standard special conditions set out in Section 1.2.

A copy of the permit is attached in Appendix I.

### 8.3 Results

#### 8.3.1 Inspections

The site was inspected on one occasion on 4 October 2018. The inspection focussed on housekeeping, evidence of spills, the state of the onsite drains, and dust/odour.

At the time of inspection, no discharge was occurring. The site was no longer operated as a feed mill and had been developed into an industrial park with a new stormwater system. The catchment area was now fully sealed. These works were found to comply with Rule 23 of RFWP and surrendering of the consent was advised.

### 8.4 Investigations, interventions, and incidents

In the period under review, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with IBR conditions in resource consents or provisions in Regional Plans.

### 8.5 Discussion

#### 8.5.1 Discussion of site performance

Housekeeping at the site over the monitoring period was good.

During the period it was found that extensive site redevelopment works had occurred which included the installation of a new drainage system and interceptor. These works had been done with view to complying with Rule 23 of the RFWP and surrendering the consent (which occurred 16 January 2019).

#### 8.5.2 Environmental effects of exercise of consent

No effects were noted during either inspection or receiving water sampling. The site has been sealed and sources of potential contamination have been removed.

### 8.5.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 22.

Table 22 Summary of performance for IBR consent 4548-2 (to 16 January 2019)

<b>Purpose: To discharge treated stormwater and minor quantities of wastewater into the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
1. Consent to be exercised as per application information	Inspections	Yes
2. Council to be informed prior to changes at site affecting discharge	Mill dismantled	Yes
3. Stormwater system to be maintained to Council's satisfaction	Inspection	Yes
4. Concentration limits on potential contaminants in discharge	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. Limit on filtered carbonaceous BOD in stream	Receiving water sampling	Yes
7. Limit on unionised ammonia in stream	Receiving water sampling	Yes
8. Prepare and maintain contingency plan	Review of documentation received	Yes
9. Prepare and maintain operation and management plan	Review of documentation received	No- plan not provided by original consent holder
10. Consent to be exercised in accordance with management plan	Inspection and discussion with consent holder	Yes
11. Provisions for review of management plan	No request for plan review during the 2017-2018 period	N/A
12. Provision for review of consent	No further opportunities for review	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>Good</b>

N/A not applicable or not assessed

During the period under review, IBR Holdings Ltd demonstrated a high level of environmental performance and good level of administrative performance and compliance with their resource consent in relation to its site on Katere Road as defined in Section 1.1.5. The consent has been surrendered and discharges are now covered under Rule 23 of the RFWP.

## 9 Nankervis Family Trust/ City Care

### 9.1 Process description

Activities at the site are undertaken by City Care. This Company operates out of the site owned by the Nankervis Family Trust (Nankervis), who hold the discharge consent for the site. City Care is an underground services company that carries out activities such as: reticulated drainage and sewage system maintenance, and minor earthworks.

The site is located in the Fitzroy industrial area, in the defined urban catchment of New Plymouth, approximately 380 metres from the closest water body, the Mangaone Stream.

Wash down water, from the truck wash bay discharges to a drain which is directed to an inceptor system. This then discharges into the NPDC's stormwater system and then into the Mangaone Stream (via discharge site STW001035). It was stated at the time of the application that up to approximately 1.0 m<sup>3</sup> of wash water would be discharged per day.



Figure 10 Nankervis Family Trust site location and discharge point

### 9.2 Water discharge permit

Although the site is operated and managed by City Care, the landowners, Nankervis obtained consent 6965-1 to cover the discharge of truck wash water via an inceptor system into the Mangaone Stream.

The permit was issued by the Council on 20 October 2006 under Section 87(e) of the RMA. It is due to expire on 1 June 2020.

This consent contains nine of the standard special conditions as set out in Section 1.2. It also contains one additional condition that requires the consent be exercised in accordance with information supplied with the application.

The permit is attached to this report in Appendix I.

## 9.3 Results

### 9.3.1 Inspections

The Nankervis site was inspected on two occasions during the period under review. These were on 4 October 2018 and 27 March 2019. The inspections focussed on general housekeeping, the maintenance of the treatment systems, and clarity and visual appearance of any discharges.

At the time of the October inspection it was found that the yard had an excessive build up and tracking of solids, sand and other contaminants that had accumulated in and around most of the stormwater grates. There was also a large amount of solids present in the sumps well above the discharge pipes that would indicate the discharge of excessive amounts of solids. These are issues that have been raised in previous inspections. A follow up sample found that the discharge to be compliant, however further sampling of the site found that the discharges had become non-compliant. A second inspection was undertaken to ensure the site was been managed properly. This inspection (30 May 2019) found that works to address the issue were underway and the sample taken during that inspection was found to be compliant.

### 9.3.2 Results of discharge monitoring

At the time of the consent application, the stormwater discharged from the site was considered to be a permitted activity, but due to the fact that stormwater from the site contributes to the NPDC discharge at the Devon Road bridge (STW001035), it is visually inspected periodically during the wet weather sample runs, and sampled if considered necessary. During the monitoring period the truck wash was not discharging at the time of sampling and the results below are those of the stormwater discharge from the site. The sampling site is the combined discharges of stormwater and truck wash water (when the truck wash is in use).

Table 23 Chemical monitoring results for Nankervis Family Trust site STW001156

Parameter	Conductivity @ 25°C	TPH	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
08 Nov 2018	9.4	b	7.5	21	16.5	23
7 Mar 2019	19.1	b	7.5	<b>194</b>	19.8	132
30 May 2019	-	<0.7	7.8	48	15.4	
<i>RFWP Limit</i>	-	15	6-9	100	-	-

**Key:** Results shown in bold within a table indicates that a RFWP limit for a particular parameter has been exceeded

b no visible hydrocarbon sheen and no odour

With the exception of one suspended solid result, the samples collected complied with the oil and grease limit, pH and suspended solids limits set in the RFWP and consent.

### 9.3.3 Investigations, interventions, and incidents

Table 24 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to the consent holder's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 24 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
27/03/2019	During routine sampling suspended solids concentration in the stormwater from the City Care site was found to be 194 g/m <sup>3</sup> (exceeding the 100 g/m <sup>3</sup> limit set out in Rule 23 of the Regional Fresh Water Plan for Taranaki) .	N	14 day letter issued	Letter of explanation received and accepted. Company undertaking works to ensure compliance. Follow up sample found to be compliant.

## 9.4 Discussion

### 9.4.1 Discussion of site performance

Issues were noted in the management of the yard during inspections, the most notable were excessive sediment build up on the yard and in the sumps. These issues were being addressed by the site operator and the last follow up sample of the monitoring period was compliant with the RFWP and consent conditions.

### 9.4.2 Environmental effects of exercise of consent

There were no adverse effects found during the period under review that were attributable to activities at the Nankervis site.

### 9.4.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 25.

Table 25 Summary of performance for Nankervis' consent 6965-1

Purpose: <i>To discharge truck wash water via an interceptor into 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	Inspection and consultation with site operators	No
2. To be exercised in accordance with application information	Inspection and consultation with site operators	Yes
3. Stormwater contingency plan and wash water management plan to be submitted and adhered to.	Updated plan in place – not being adhered to	No
4. Discharge cannot cause specified adverse effects beyond mixing zone	Observation of river during sampling runs	Yes
5. No direct discharge of untreated wash water to Mangaone Stream	Inspection and observations during sampling runs	Yes
6. Limits on chemical composition of discharge	Observation during inspection and discharge sampling	No

Purpose: <i>To discharge truck wash water via an interceptor into the Mangaone Stream</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
7. No degreasers to be used and no wash waters containing concrete products to be discharged	Inspection and consultation with site operators	Yes
8. No adverse effects permitted on surface water or groundwater	Inspection and observations during sampling runs. No groundwater sampling scheduled	Yes
9. Consent to lapse after 5 year period if not exercised	Consent has been exercised	N/A
10. Provision for review of consent	No further option for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>Improvement required</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

During the period under review, and improvement was required in Nankervis Family Trust/City Care's level of environmental performance in relation to its site on Dean Place. During the monitoring it was found that the control of sediment accumulation and maintenance of treatment systems was not adequate. There was also one non-compliant sample result. Works were undertaken to rectify these matters. Nankervis/City Care demonstrated a high level of administrative performance.

## 10 New Plymouth District Council

### 10.1 Process description

New Plymouth District Council (NPDC) holds consents to discharge stormwater to the lower Waiwhakaiho River and Mangaone Stream, and to discharge landfill leachate to groundwater and the Waiwhakaiho River from an industrial development off Bewley Road. The catchment areas and discharge points associated with the stormwater consents are shown in Figure 11 and Figure 12. The results for the stormwater and leachate discharge monitoring are reported on separately.

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.



Figure 11 NPDC stormwater drainage and consented discharge points to the Waiwhakaiho River

#### 10.1.1 Stormwater discharges

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.



Figure 12 NPDC stormwater drainage and consented discharge points to the Mangaone Stream

### 10.1.2 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.



## 10.2 Water discharge permits

### Waiwhakaiho River

NPDC holds consent 5163-2. This was granted on 10 June 2008 to authorise the discharge of 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.

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. The consent is due to expire on 1 June 2026.

NPDC holds consent 4984-2 to discharge leachate from the closed Bewley Road landfill to groundwater and the Waiwhakaiho River. It was granted by the Council on 16 March 2016 and is due to expire on 1 June 2032.

Consent 4984-2 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 of the consent.

### Katere Road industrial area

NPDC holds consent 1275-3. This consent was granted on 10 June 2008 to provide for the discharge of 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.

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. The consent is due to expire on 1 June 2026.

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

## 10.3 Results

### 10.3.1 Stormwater discharges

#### 10.3.1.1 Inspections

NPDC's discharge sites were inspected on five occasions during the monitoring period, these were 3 July 2018, 15 November 2018, 6 December 2018, 14 December 2018, and 26 April 2019.

The inspections visually assessed discharge structures for evidence of staining from contaminants and the clarity of any discharges occurring. The receiving waters were also assessed.

No issues were noted during the inspections on 3 July, 15 November, 6 December or 14 December 2018.

On 26 April 2019 there was evidence of discolouration in the stagnant water and litter items that had discharged at some time through the stormwater system. No adverse effects were noted.

#### 10.3.1.2 Chemical monitoring

Chemical monitoring is carried out at six public stormwater drain outlets, three of which also discharge wastewater or stormwater from licensed industrial sites. These are McLeod's Drain at the bottom of Smart Road, the "mid Katere Road" storm drain to the Mangaone Stream and the storm drain to the Mangaone Stream 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 is still monitored as road run-off and

surface flooding due to poorly maintained drains may contribute to the contamination of stormwater entering the receiving waters.

### 10.3.1.3 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 Firths or McLeod's Drain).

The results of routine chemical monitoring for the period under review are presented in Table 26.

Table 26 Chemical monitoring results for Burton Street stormwater site STW001081

Parameter	Conductivity @25°C	Oil and grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
26 Oct 2018	17.8	b	7.1	4	14.1	3.4
27 Nov 2018	12.8	b	7.0	5	15.0	11.1
<i>RFWP Guideline</i>	-	15	6-9	100	-	-

**Key:** b no visible hydrocarbon sheen and no odour

The pH, suspended solids and oil and grease concentrations were determined to be within the standards expected for the permitted activities within this stormwater catchment.

### 10.3.1.4 Discharge to Waiwhakaiho River from McLeod's Drain

The discharge from McLeod's Drain enters the Waiwhakaiho River about 50 metres downstream of the lower end of Smart Road. The drain carries stormwater from the site of Ravensdown Fertiliser's depot on Devon Road (consent 3140), other industrial sites including Smart Road railyard (consent 3258), 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 fertiliser storage depot and railyard.

There is likely to be slightly elevated background phosphorus and ammonia concentrations, mainly due to dissolution of fertiliser particles carried by wind or water into storm drains at and around Ravensdown's fertiliser depot, or from spillages during cartage of the fertiliser to and from the site. Ravensdown have policies in place requiring that spills during cartage on site and on public roads are cleaned up by the drivers. The results of routine chemical monitoring for the period under review are presented in Table 27.

Table 27 Chemical monitoring results for NPDC McLeod's Drain discharge site STW001001

Parameter	Ammoniacal nitrogen	Conductivity @ 25°C	DRP	Oil and Grease	pH	Suspended solids	Temp.	Un-ionised ammonia
Units	g/m <sup>3</sup> N	mS/m	g/m <sup>3</sup> P	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	g/m <sup>3</sup>
26 Oct 2018	0.117	26.2	0.010	b	7.4	<3	15.4	0.00099
27 Nov 2018	0.29	26.5	<0.004	b	7.6	<3	16.0	0.00406
<i>RFWP Guideline</i>	-	-	-	15	6-9	100	-	-

**Key:** b no visible hydrocarbon sheen and no odour, DRP Dissolved reactive ammonia

The pH, unionised ammonia, suspended solids and oil and grease 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.

### 10.3.1.5 Discharge to Waiwhakaiho River from Rifle Range Road and Struthers Place

This was an open drain/tributary that was piped when the Bewley Road area was developed and the Waiwhakaiho stopbank put in. Stormwater from the retail area between Struthers Place and Constance Street, the commercial area of Struthers Place, and part of Rifle Range Road is piped to the Waiwhakaiho via this discharge point.

The results of routine chemical sampling for the period under review are presented in Table 28.

Table 28 Wet weather chemical monitoring results for Struthers Place site WKH000872

Parameter	Ammoniacal nitrogen	Conductivity @ 25°C	Oil and Grease	pH	Suspended solids	Temp	Un-ionised ammonia
Unit	g/m <sup>3</sup> N	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	g/m <sup>3</sup>
26 Oct 2018	15.8	81.6	b	7.5	3	15.4	0.16849
01 Apr 2019	0.85	15.8	b	6.6	11	-	-
<i>RFWP Guideline</i>	-	-	15		100	-	0.025
<i>Consent Limit*</i>	25	-	-	6.5-8.5	-	-	-

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour

\*Consent 4984-to discharge leachate from Bewley Rd landfill

The pH, suspended solids and oil and grease concentrations were determined to be similar to or below the median value for this site, and were well within the standards expected for the permitted activities within this stormwater catchment. The unionised ammonia level was elevated and exceeded the permitted activity level of 0.025 g/m<sup>3</sup>.

It should be noted that this discharge, when at lower rates of flow may be influenced by the ammonia discharges from the Bewley Road landfill, and this is covered by (and in compliance with) consent 4984.

### 10.3.1.6 Discharge to Waiwhakaiho River from Vickers Road

This catchment drains the area on both sides of Vickers Road 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 29.

Table 29 Chemical monitoring results for Vickers Road discharge site STW001020

Parameter	Conductivity @ 25°C	Oil and Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m@20C	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
26 Oct 2018	28.1	<0.7	7.8	31	-	39
27 Nov 2018	80.1	<0.7	6.8	45	16.0	130
<i>RFWP Guideline</i>	-	15	6-9	100	-	-

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

### 10.3.1.7 Discharge to Mangaone Stream from mid Katere Road

Stormwater from the mid-section of Katere Road discharges to the Mangaone Stream between the discharges from IBR and 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 Freight and Bulk Transport site.

Monitoring of this discharge commenced in 2007. The results for the period under review are presented in Table 30.

Table 30 Chemical monitoring results for stormwater drain from mid Katere Road to the Mangaone Stream site STW001116

Parameter	Units	02 Oct 2018	1 Nov 2018	1 Apr 2019	RFWP limits
Ammoniacal nitrogen	g/m <sup>3</sup> N	0.31	0.030	0.48	
BOD	g/m <sup>3</sup>	10	13	7	5
Conductivity	mS/m@25°C	15.1	21.0	19.7	
DRP	g/m <sup>3</sup> P	0.33	0.32	0.76	
Oil and Grease	g/m <sup>3</sup>	<0.7	<4	<0.7	15
pH	pH	7.3	7.2	7.1	6-9
Suspended solids	g/m <sup>3</sup>	52	50	82	100
Temperature	Deg.C	14.0	14.5	20.0	
Turbidity	NTU	27	61	36	
Un-ionised ammonia	g/m <sup>3</sup>	0.00189	0.00015	0.0024	0.025

**Key:** DRP Dissolved reactive phosphorus  
BOD Biochemical oxygen demand

The consent held by NPDC for discharges into the Mangaone Stream has no conditions relating to the quality of the discharge.

The biochemical oxygen demand of this discharge exceeded the concentration given in the RFWP for Taranaki for permitted activities (Rule 23), on one of the monitoring occasions. However, instream levels of filtered carbonaceous biochemical oxygen demand (BODCF) in the Mangaone Stream were found to be well below the 2.0 g/m<sup>3</sup> RFWP guideline values.

The unionised ammonia concentrations were found to be in compliance with the 0.025 g/m<sup>3</sup> limit set in the RFWP.

### 10.3.1.8 Discharge to Mangaone Stream from Hurlstone Drive

Stormwater from the industrial area along Hurlstone Drive discharges to the Mangaone Stream immediately upstream of the State Highway 3 bridge, stormwater and wastewater from the batching plant of AMC (consent 4539) and stormwater and wash water from Nankervis (consent 6965) contribute to this discharge.

The results of routine chemical monitoring for the period under review are presented in Table 31, together with a summary of all results for comparison.

The consent does not contain conditions controlling the quality of the stormwater discharged from NPDC's stormwater system, however at the time of sampling the discharge complied with the pH, suspended solids and oil and grease standards expected for a permitted activity, and were within the prescribed limits for consent holders discharging via this outlet.

Table 31 Chemical monitoring results for stormwater drain from Hurlstone Drive to Mangaone Stream at SH3 site STW001035

Parameter	Ammoniacal nitrogen	Conductivity @25°C	Oil and grease	pH	Suspended solids	Temp	Un-ionised ammonia
Unit	g/m <sup>3</sup> N	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	g/m <sup>3</sup>
08 Nov 2018	0.029	12.7	<0.7	7.3	25	15.6	0.00020
27 Mar 2019	0.069	9.9	<0.7	7.3	15	19.8	0.00064
<i>RFWP Guideline</i>	-	-	15	6-9	100	-	0.025

### 10.3.2 Bewley Road industrial development

An area between the right bank of the Waiwhakaiho River and Devon Road was once used as a rubbish dump. The reach of river adjacent to the old dump runs for about 740 metres, from a point between the Devon Road Bridge and Constance Street downstream to a point near Vickers Road. The area has been substantially developed and now contains a retail park and a number of commercial operators.

### 10.3.3 Groundwater monitoring

There are three groundwater monitoring bores located around the periphery of the area, which NPDC is required by their consent to maintain for groundwater monitoring. There is a 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 discharge point.

Groundwater monitoring bore #3 (the control bore, GND0556) is drilled into natural alluvial deposits beside Devon Road. This bore was affected by the raising of the ground surface around it by approximately 0.5 metres which may affect the chemical results. The results for GND0556 are shown in Table 32.

Table 32 Chemical monitoring results for Bewley Road landfill control bore #3 site GND0556

Parameter	Unit	17 Jan 2019	03 Apr 2019
Alkalinity Total	g/m <sup>3</sup> CaCO <sub>3</sub>	98	100
Ammoniacal nitrogen	g/m <sup>3</sup> N	9.5	8.6
Bicarbonate	g/m <sup>3</sup> HCO <sub>3</sub>	120	122
Conductivity @25°C	mS/m	165	167.7
Dissolved reactive phosphorus	g/m <sup>3</sup> P	<0.004	<0.004
Filtered COD	g/m <sup>3</sup>	<6	<6
Nitrite/nitrate nitrogen	g/m <sup>3</sup> N	0.023	0.031
pH	pH	6.5	6.4
Potassium	g/m <sup>3</sup>	52	53
Sulphate	g/m <sup>3</sup>	590	590
Temperature	Deg.C	19.7	20.6

Parameter	Unit	17 Jan 2019	03 Apr 2019
Un-ionised ammonia	g/m <sup>3</sup>	0.01405	0.01081
Zinc Dissolved	g/m <sup>3</sup>	0.0028	0.0078

At bore #3, the levels recorded for each of the parameters analysed were similar to those values previously observed, although it is noted that the ammoniacal nitrogen, potassium and sulphate concentrations have been increasing since the 2004-2005 monitoring year. The exact cause of these increases are not known, however it is noted that the bores around the Ravensdown site (up gradient and to the west) are known to contain elevated levels of sulphate and ammoniacal nitrogen.

Groundwater bore #1 (the south bore, GND0548) is located near the corner of Struthers Place and Rifle Range Road. This is 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. These facts need to be considered when interpreting the results, and in particular the median values for parameters. The results for GND0548 are shown in Table 33.

Table 33 Chemical monitoring results for Bewley Road landfill down gradient monitoring bore #1 site GND0548

Parameter	Unit	17 Jan 2019	03 Apr 2019	Consent limit
Alkalinity Total ( as CaCO <sub>3</sub> )	g/m <sup>3</sup>	320	360	-
Ammoniacal nitrogen	g/m <sup>3</sup> N	9.9	13.0	25
Bicarbonate	g/m <sup>3</sup>	390	440	-
Conductivity @25°C	mS/m	88.6	92.7	-
DRP	g/m <sup>3</sup> P	<0.004	0.052	0.065
Filtered COD	g/m <sup>3</sup>	19	24	-
Nitrite/nitrate nitrogen	g/m <sup>3</sup> N	0.005	0.012	-
pH	pH	6.9	6.7	6.5-8.5
Potassium	g/m <sup>3</sup>	25	27	-
Sulphate	g/m <sup>3</sup>	10.5	6.5	-
Temperature	Deg.C	19.2	20.1	-
Un-ionised ammonia	g/m <sup>3</sup>	0.03539	0.03138	-
Zinc Dissolved	g/m <sup>3</sup>	<0.0010	0.0022	-

The groundwater complied with the consent limits for ammoniacal nitrogen, dissolved reactive phosphorus, and pH. It is noted however that the ammoniacal nitrogen concentration continues to rise for this site. A review of the data suggests a long term trend of increasing ammoniacal nitrogen at this bore, however an increase is also noted at the control bore GND00556.

Potassium was also found to be elevated for the site and this also reflects a slow increase in potassium concentrations at the site. However the upper limit on the range of potassium concentrations found is well within acceptable levels.

Groundwater monitoring bore #2 (north bore, GND0555) is on Rifle Range Road between Struthers Place and Vickers Road. This bore was also affected by stop-bank construction in a previous review period and had to be re-drilled. 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 has subsequently been 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 had again been destroyed by development activities in the area. NPDC replaced the bore at the request of the Council. The fact that this bore has been re-drilled a number of times needs to be considered in interpreting the results and in particular median values for parameters. The results for GND0555 are shown in Table 34.

**Table 34 Chemical monitoring results for Bewley Road landfill down gradient monitoring bore #2 site GND0555**

Parameter	Unit	17 Jan 2019	03 Apr 2019	Consent limit
Alkalinity Total ( as CaCO <sub>3</sub> )	g/m <sup>3</sup>	182	190	-
Ammoniacal nitrogen	g/m <sup>3</sup> N	6.3	7.8	25
Bicarbonate	g/m <sup>3</sup>	220	230	-
Conductivity @25°C	mS/m	46.5	47.5	-
DRP	g/m <sup>3</sup> P	<0.004	0.009	0.065
Filtered COD	g/m <sup>3</sup>	15	12	-
Nitrite/nitrate nitrogen	g/m <sup>3</sup> N	0.018	0.016	-
pH	pH	6.6	<b>6.4</b>	6.5-8.5
Potassium	g/m <sup>3</sup>	6.6	7.0	-
Sulphate	g/m <sup>3</sup>	<0.5	<0.5	-
Temperature	Deg.C	19.2	21.5	-
Un-ionised ammonia	g/m <sup>3</sup>	0.01130	0.01048	-
Zinc Dissolved	g/m <sup>3</sup>	0.0037	0.0060	-

The pH result obtained for the 3 April 2019 sample was within the range of uncertainty of measurement for pH. Therefore consent limits for ammoniacal nitrogen, dissolved reactive phosphorus, and pH were complied with and all parameters were either similar to median of all results and/or were below the maximum with the exception of ammoniacal nitrogen and potassium. It noted that the rises in potassium and ammoniacal nitrogen are being noted at all bores, however the actual values being recorded either comply with consent conditions (for ammoniacal nitrogen) or are within acceptable ranges.

Overall the leachate component concentrations in both downstream bores are relatively low in comparison to most municipal landfill leachates.

#### 10.3.4 Surface water and discharge monitoring

The results for the associated discharge and receiving water sampling are shown in Table 35 and Table 36 respectively.

**Table 35 Chemical monitoring results for Bewley Road landfill discharge monitoring site WKH000872**

Parameter	Unit	17 Jan 2019	3 Apr 2019	Consent limit
Alkalinity Total ( as CaCO <sub>3</sub> )	g/m <sup>3</sup>	220	240	-
Ammoniacal nitrogen	g/m <sup>3</sup> N	16.5	17.4	25
Conductivity @ 25°C	mS/m	82.4	84.9	-

Parameter	Unit	17 Jan 2019	3 Apr 2019	Consent limit
DRP	g/m <sup>3</sup> P	<0.004	<0.004	0.065
Filtered COD	g/m <sup>3</sup>	6	10	
pH	pH	7.6	7.8	6.5-8.5
Potassium	g/m <sup>3</sup>	22	23	-
Sulphate	g/m <sup>3</sup>	93	101	-
Temperature	Deg.C	21.3	20.9	-
Turbidity	NTU	-	11.8	
Un-ionised ammonia	g/m <sup>3</sup>	0.34068	0.55167	-
Zinc Dissolved	g/m <sup>3</sup>	0.0063	0.0088	-

**Key:** Results shown in bold within a table indicates that a consent limit for a particular parameter is exceeded

The sample taken at site WHL00872 complied with contaminant concentration limits set out in consent conditions. To assist in the interpretation of 'effects' of the discharge, the biannual groundwater sampling runs were carried out at times of low river flow and the three river sites above (WKH000920), alongside (WKH000925), and below (WKH000942) the landfill site were also sampled. The results of this monitoring are given in Table 36.

Table 36 Results for Bewley Road landfill, dry weather receiving water chemical monitoring

Parameter		Waiwhakaiho		
		Constance Street (WKH000920)	Opposite Firth's (Ford) (WKH000925)	Above Mangaone Confluence (WKH000942)
<b>17 Jan 2019</b>				
Time	NZST	10:25	09:52	09:30
Conductivity @25°C	mS/m	12.7	12.9	13.1
DRP	g/m <sup>3</sup> P	0.014	0.014	0.014
Unionised ammonia	g/m <sup>3</sup>	0.00073	0.00076	0.00012
Ammoniacal N	g/m <sup>3</sup> N	<0.010	0.013	<0.010
pH	pH	8.5	8.1	7.7
Temperature	Deg.C	21.2	20.3	19.7
Turbidity	NTU	1.61	0.79	1.04
<b>3 April 2019</b>				
Time	NZST	14:10	14:25	13:55
Conductivity @25°C	mS/m	11.1	11.4	11.2
DRP	g/m <sup>3</sup> P	0.014	0.012	0.014
Unionised ammonia	g/m <sup>3</sup>	0.00022	0.00048	0.00019
Ammoniacal N	g/m <sup>3</sup> N	0.019	0.017	0.016
pH	pH	7.5	7.9	7.5
Temperature	Deg.C	16.6	16.2	16.6
Turbidity	NTU	1.10	1.04	0.86



The analyses showed during the low flow survey undertaken in the period under review, ammoniacal nitrogen increased between WKH000920 and WKH000925, then decreased slightly at WKH000942. Due to the extremely low levels found, there would have been little, if any environmental effect associated with these changes.

### 10.3.5 Investigations, interventions, and incidents

In the 2018-2019 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the NPDC's conditions in resource consents or provisions in Regional Plans.

## 10.4 Discussion

### 10.4.1 Environmental effects of exercise of consents

During the period under review no significant adverse effects were observed in the receiving environment as a result of the exercise of NPDC's stormwater or leachate consents.

The wet weather survey found no significant effects downstream of the discharges in the Waiwhakaiho River.

Elevated BOD, unionised ammonia and suspended solids were observed in discharge samples collected from the mid Katere Road drain. No significant adverse effects were noted in the Mangaone Stream at the time of sampling.

All groundwater samples obtained from the Bewley Road landfill during the period under review were in compliance with consent 4984. The non-compliant result did not result in elevations of ammonia in the receiving water and a subsequent discharge sample was compliant.

Overall, with the exception of bicarbonate, the leachate component concentrations reported were relatively low in comparison to most municipal landfill leachates. There continues to be fluctuations in parameters analysed but this is generally consistent with the flushing effects of rainfall. It is noted that the ammoniacal nitrogen and potassium concentrations in the samples collected from bore 3, the control bore up gradient of the dump area, and bore 1, the south bore on the corner of Struthers Place and Rifle Range Road continue their upward trend. However, the concentrations are not so high as to be of immediate concern, and little, if any effect was observed in the receiving water. Council will continue to monitor any changes.

## 10.4.2 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 37, Table 38, and Table 39.

Table 37 Summary of performance for NPDC's consent 1275-3

<b>Purpose: To discharge stormwater discharge from the Katere Industrial area into the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
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	Next option for review in June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

Table 38 Summary of performance for NPDC's consent 5163-2

<b>Purpose: To discharge stormwater discharge from an industrial subdivision into the Waiwhakaiho River</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
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	Next option for review in June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

Table 39 Summary of performance for NPDC's consent 4984-2

<b>Purpose: To discharge leachate from a former landfill site into groundwater, adjacent to the Waiwhakaiho River</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
1. Limits on chemical composition of discharge	Inspection and sampling of discharge	Yes
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	Next option for review in June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

During the period under review, New Plymouth District Council demonstrated a high level of environmental performance and high level of administrative performance and compliance with its resource consents as defined in Section 1.1.5.

## 11 New Zealand Railways Corporation/KiwiRail Holdings Ltd (KiwiRail)

### 11.1 Process description

New Zealand Railways Corporation/KiwiRail Holdings Ltd (KiwiRail) own a rail terminal on a site off Smart Road. 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.

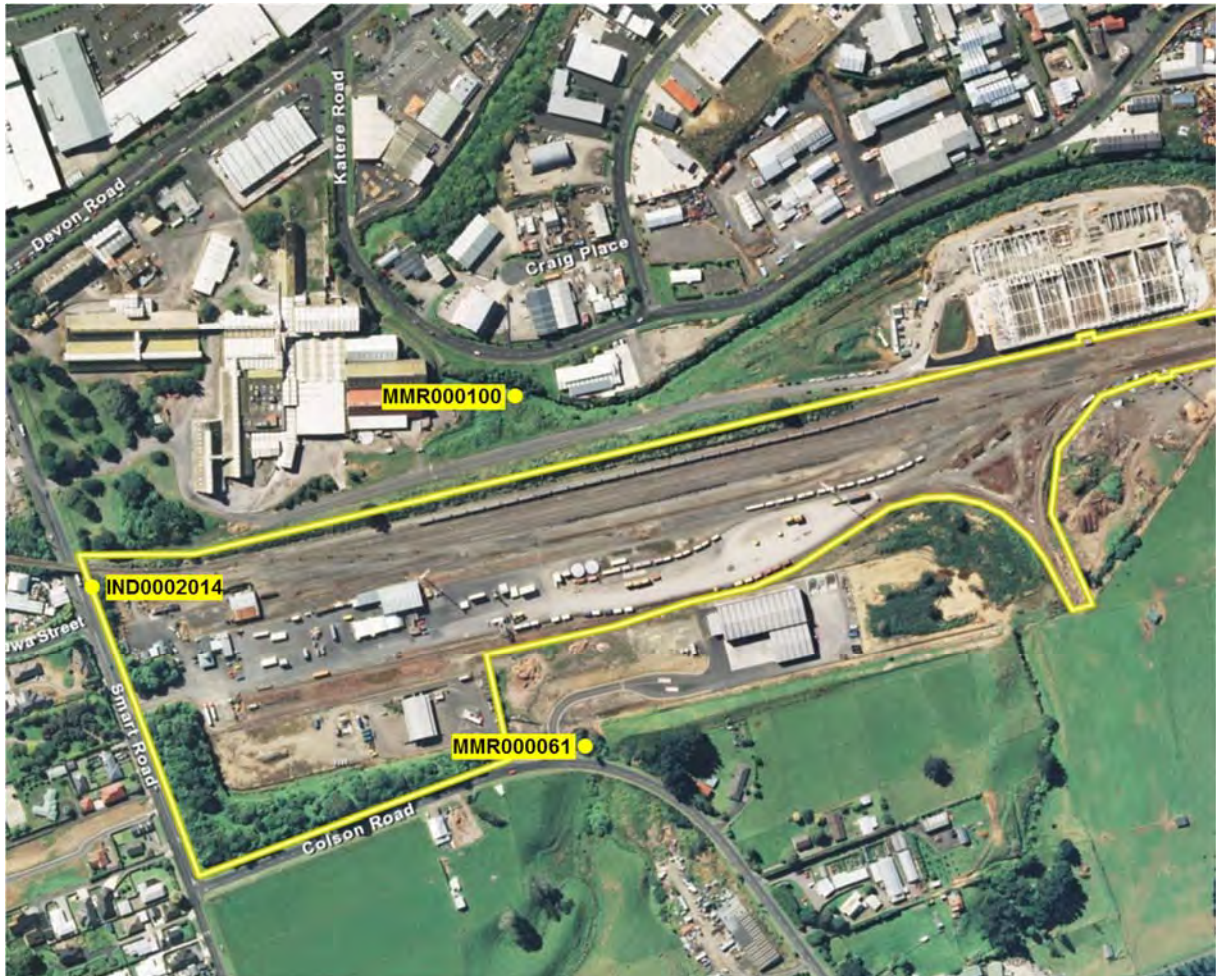


Figure 13 KiwiRail's yard and sampling point locations

Drainage from the area to the west and north of the offices (i.e. the refuelling area and maintenance area) flows to the Waiwhakaiho River via McLeod's Drain, an underground pipe that also receives stormwater from Ravensdown's 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 fuelling 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.

## 11.2 Water discharge permits

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 held New Zealand Rail Corporation.

KiwiRail holds consent 3528-3 to discharge stormwater into the Waiwhakaiho River. This consent was granted on 31 March 2017 under Section 88 of the RMA. It expires on 1 June 2026.

Consent 3528-3 contains the standardised conditions as set out in Section 1.2 as well as limits of 3 g/m<sup>3</sup> ammoniacal nitrogen and 1 g/m<sup>3</sup> dissolved reactive phosphorus.

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. It was granted on 31 July 2009 and will expire on 1 June 2026.

This consent contains the standardised special conditions as set out in Section 1.2.

## 11.3 Results

### 11.3.1 Inspections

The site was inspected on three occasions during the period under review. These were on 6 December 2018, 11 December 2018, and 13 February 2019.

The inspections focussed on treatment systems, evidence of any spills or leaks, the condition of the drains, and the condition of the diesel containment bund.

Overall the site was in good order and free of spills and other sources of contamination. It was noted during inspections that there was a small amount of hydrocarbon carry over in the final sump of the interceptor and this risk would be managed with an improved cleaning regime.

### 11.3.2 Chemical analysis

#### 11.3.2.1 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 code IND002014). The results for period under review are given in Table 40. One site STW001117 had been established during the 2006-2007 year for sampling of the site discharge from the eastern end of the site into the Mangaone Stream, via the Mangamiro Stream. As the discharge sampled was only one of approximately eight NZRC discharges that enter the Mangamiro Stream (which is culverted for the entire stretch flowing under their site) it was subsequently decided that this was not truly representative of the overall quality of the NZRC discharges to this receiving water, which exits the culvert immediately upstream of its confluence with the Mangaone Stream. From the start of the 2010-2012 period, a different approach was taken at the NZRC site, with any change in the stream being attributable to the consent holder. The result of this monitoring are reported in 11.3.2.2.

Table 40 Monitoring results for Smart Road rail yard stormwater discharge-site IND002014

Parameter	Ammoniacal nitrogen	BOD	Conductivity @25°C	Dissolved reactive phosphorus	Oil and grease	pH	Suspended solids	Temp
Unit	g/m <sup>3</sup> N	g/m <sup>3</sup>	mS/m	g/m <sup>3</sup> P	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C
26 Oct 2018	<0.010	1.2	24.0	0.030	b	7.8	<3	15.6
01 Apr 2019	0.158	2.0	22.3	0.37	<4	7.4	7	20.0
<i>Consent limit</i>	3.0	-	-	1.0	20	6-9	100	-

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour

Compliance with consent limits was achieved for all parameters during the period under review.

### 11.3.2.2 Results of receiving environment monitoring

The Mangamiro Stream is culverted under the Smart Road rail terminal and emerges immediately upstream of the confluence of the Mangamiro Stream and Mangaone Stream. The stormwater from the eastern area of the terminal is discharged into the Mangamiro Stream at about eight different points. This part of the yard is predominantly unsealed, although there is a small proportion of this sub-catchment that is sealed and contains the railyard's freight handling activities.

The Mangamiro Stream is monitored at the point of entry into the culvert (site code MMR000061) and at the culvert's outlet to the Mangaone Stream (site code MMR000100). The result of the monitoring undertaken during the period under review is given in Table 41.

Table 41 Receiving environment chemical monitoring results for Smart Road rail yard stormwater discharge to the Mangamiro Stream

Parameter	Unit	01 Nov 2018	
		MMR000061 U/s Railyard	MMR000100 D/s Railyard
Time	NZST	08:45	09:25
Conductivity @25°C	mS/m	20.4	18.1
Dissolved reactive phosphorus	g/m <sup>3</sup> P	<0.004	0.009
Unionised ammonia	g/m <sup>3</sup> N	0.00072	0.00060
Ammoniacal nitrogen	g/m <sup>3</sup> N	0.300	0.149
pH	-	6.9	7.1
Suspended solids	g/m <sup>3</sup>	4	300
Temperature	°C	13.8	14.6
Turbidity	NTU	10.3	103

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour

The sampling undertaken 7 November showed small rises in dissolved reactive phosphorus. These rises are likely to be in part the result of KiwiRail's inputs into the Mangamiro Stream, however other sources such as Envirowaste may also contribute. There was large increase in turbidity and suspended solids in the downstream flow, however sampling comments noted that an easily disturbed algae bed was present on the outflow structure, and that disturbed algae itself could be contributing to the turbidity of the sample. As with all upstream/downstream sampling, the time differential between samples may also contribute to

changing values usually as a result of changes in flows. Sampling of the Mangaone Stream downstream (site MGO000150) at 9:30 on the same day of the discharge found a suspended solids of <3 g/m<sup>3</sup> indicating that there was no effect occurring.

## 11.4 Investigations, interventions, and incidents

In the 2018-2019 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.

## 11.5 Discussion

### 11.5.1 Discussion of site performance

The bulk diesel bund, interceptors were generally well managed. No other spills were noted in the refuelling area or freight handling area during the period under review. The maintenance of containment and general housekeeping were noted to be potential emerging issues during the monitoring period.

### 11.5.2 Environmental effects of exercise of consent

The concentrations of contaminants in the discharge to the Waiwhakaiho River for the period under review were well within the limits imposed by the conditions of the resource consent. The discharge from this site had no effect on the stormwater discharge from McLeod's Drain or on the receiving water.

Physicochemical monitoring found some measurable, changes in some of the parameters monitored in the Mangamiro Stream, however the downstream values were well within acceptable ranges, and no adverse effects were observed.

There was large increase in turbidity and suspended solids in the downstream flow, however sampling comments noted that an easily disturbed diatom bed was present on the outflow structure, and that disturbed algae itself could be contributing to the turbidity of the sample. There were no other significant changes in suspended solids or any other parameters found downstream of the site and no measurable effect was noted in the Mangaone Stream.

### 11.5.3 Evaluation of performance

A tabular summary of the KiwiRail's compliance record for the period under review is set out in Table 42 and Table 43.

Table 42 Summary of performance for KiwiRail's consent 1735-3

Purpose: <i>To discharge stormwater into the Mangaone Stream</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to prevent or minimise adverse effects	Inspection and receiving water monitoring	Yes
2. Limits stormwater catchment to 11.28 ha	Inspection	Yes
3. Bunding of hazardous substances if on site for more than three days	Inspection	N/A

<b>Purpose: To discharge stormwater into the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
4. Concentration limits upon potential contaminants in discharge	By inference from chemical sampling of receiving water	N/A
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	Review of documentation received	Yes
7. Prepare and maintain management plan and review every two years	Review of documentation received	Yes
8. Provision for lapsing of consent	Consent exercised	N/A
9. Provision for review of conditions	Next option for review in June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

Table 43 Summary of performance for KiwiRail's consent 3528-3

<b>Purpose: To discharge of stormwater into the Waiwhakaiho River</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
1. Adopt best practical option	Inspection	Yes
2. Size of catchment area	Inspection	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	Yes
6. Adhere to Stormwater management plan	Plan received	Yes
7. Notification of changes in site processes	No changes made	N/A
8. Review condition	Next option for review in June 2020, recommendation attached	N/A



<b>Purpose: <i>To discharge of stormwater into the Waiwhakaiho River</i></b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

During the period under review, KiwiRail Holdings Ltd and New Zealand Railways Corporation Ltd demonstrated a high of environmental performance and high level of administrative performance and compliance with their resource consents as defined in Section 1.1.5 in relation to its Smart Road site.

This recommendation was implemented in full.

## 12 Ravensdown Fertiliser Co-operative Ltd (old site)

### 12.1 Process description

The New Plymouth depot of Ravensdown Fertiliser Co-operative Ltd (Ravensdown) occupies an area of about 7 ha bounded by Devon, Smart and Katere Roads, and the Smart Road rail yard (Figure 14). The Mangaone Stream touches the eastern boundary. 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 (MAP & DAP). Small volumes of trace element fertilisers such as zinc sulphate are also handled through the store. Approximately 250,000 tonnes of fertiliser are distributed per annum.



Figure 14 Ravensdown Fertiliser Co-operative Ltd site and sampling point locations

Until 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 its tributary the Mangaone Stream.

Drainage from western and northern parts of the site flows to the Waiwhakaiho River (Consent 3140), via an underground drain that runs beside Devon Road to 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 beneath lower Smart Road for about 600 metres from the railway, to join the river about 50 metres

downstream of Smart Road. The mean flow of the tributary is about 10 L/s. All of the manufacturing plants were in this catchment.

Drainage from southern and eastern parts of the site flows to the Mangaone Stream at several points (Consent 3865). 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 is via a short ditch that meets the Mangaone Stream about 150 metres above the Katere Road Bridge. The Mangamiro Stream, which is a small piped tributary of the Mangaone Stream, exits just upstream of the Ravensdown stormwater drain. The other discharge points are mainly roof drain outlets. During the monitoring period the site was purchased by Devon 612 Ltd and Ravensdown vacated the site in November 2018.

## 12.2 Water discharge permits

Ravensdown blends, stores and distributes fertiliser at a depot situated between Devon, Katere and Smart Roads. Ravensdown was granted two resource consents on 26 November 1997, to discharge stormwater from the depot to the Waiwhakaiho River and to the Mangaone Stream for a period until 1 June 2014.

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 was issued on 3 May 2017 under section 88 on the RMA and expires on 1 June 2026. 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.

Ravensdown exercised one other resource consent in relation to the fertiliser depot. Discharge permit 4024-3 provides for emissions to air, mainly dust. Monitoring of this permit is addressed in a separate report.

## 12.3 Results

### 12.3.1 Inspections

Compliance monitoring inspections were conducted on two occasions at the Ravensdown site during the period. These were on 27 November 2018 and 24 June 2019.

The inspections focussed on product tracking, ponding, any works to dismantle and remediate parts of the site, the state of the drains, the treatment wetland and the receiving waters.

The site was in compliance with consent conditions at the time of the inspection of 27 November 2018. Operations at the site ceased on 29 November 2018 and the unused site remained under the consent of Ravensdown. The inspection found that despite the lack of activity several issues had emerged at the site such as ponding and the entrainment of old product due to leaky buildings. As the consent in question was undergoing a protracted transfer process from Ravensdown to the site's new owners, it was decided to inform both parties of the issues.

### 12.3.2 Chemical analysis

#### 12.3.2.1 Results of discharge monitoring

##### Waiwhakaiho River (3568-4)

The discharge to the Waiwhakaiho River is sampled at a manhole on the old effluent line to McLeod's Drain (Site Code IND004002). The results of monitoring for the period under review are presented in Table 44. The oil and grease concentration limit given in consent 3140 was assessed as having been complied with on all

monitoring occasions during the period under review. The pH and suspended solids limits were also complied with on all occasions.

Table 44 Chemical monitoring results for Ravensdown's stormwater discharge to McLeod's Drain site IND004002

Parameter	Unit	26 Oct 2018	1 Apr 2019	Consent limits
Dissolved reactive phosphorus	g/m <sup>3</sup>	1.60	1.47	30
Electrical conductivity @25°C	mS/m	93.2	56.3	-
Fluoride	g/m <sup>3</sup>	1.20	-	
Free ammonia as N	g/m <sup>3</sup>	-	0.0114	-
pH	-	7.2	7.6	6-9
Hydrocarbons	g/m <sup>3</sup>	<i>b</i>	<i>b</i>	15
Temperature	°C	-	20.0	
Sulphate	g/m <sup>3</sup>	125	67	-
Suspended solids	g/m <sup>3</sup>	18	14	100
Total ammoniacal-n	g/m <sup>3</sup>	14.5	0.76	
Total phosphorus	g/m <sup>3</sup>	2.1	1.71	-
Turbidity	NTU	7.0	5.4	-

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour detected

Results show that the composition of the discharge has changed considerably since manufacturing stopped at the site. The turbidity, pH, and the concentration of suspended solids, and the nutrients ammonia and phosphorus have all increased markedly, while the temperature, fluoride concentration and conductivity have, for the most part, reduced. These changes owe largely to the cessation of the discharge of brackish cooling water from the Waiwhakaiho estuary following the closure of the fertiliser works. The large cooling water flow tended to mask any effects of stormwater, resulting in a discharge of relatively low turbidity, suspended solids and nutrient values that had a high conductivity. The elevated ammonia and phosphorus concentrations now typically observed owe to the dissolution of fertiliser particles carried by wind or water into the stormwater drains.

Ammoniacal nitrogen appears to have dropped somewhat after Ravensdown vacated the site, however total phosphorus and dissolved reactive phosphorus were found to be similar to median values in all samples.

The fluoride concentrations found in the discharges similar to the median of the historical results and were below the NZ drinking water guideline of 1.5 mg/L.

#### Mangaone Stream (Consent 3568-4)

The main discharge to the Mangaone Stream, comprising stormwater and/or groundwater seepage, is sampled from a ditch in the south-eastern corner of the site, outside the high analysis store (site code STW002003). The results of monitoring for the period under review are presented in Table 45.

Table 45 Chemical monitoring results for Ravensdown main stormwater discharge to the Mangaone Stream site STW002003

Parameter	Unit	9 Nov 2018	1 Apr 2019	Consent limits
Dissolved Reactive Phosphorus	g/m <sup>3</sup>	1.68	2.6	30
Electrical Conductivity@25°C	mS/m	106.2	62.8	-
Fluoride	g/m <sup>3</sup>	1.12	-	-
Free Ammonia as N	g/m <sup>3</sup>	0.05046	0.0027	-
Nitrate-N + Nitrite-N	g/m <sup>3</sup>	7.7	9.2	-
Hydrocarbons	g/m <sup>3</sup>	b	b	15
pH	pH Units	7.2	7.2	6-9
Temperature	°C	15.4	20.0	-
Total Ammoniacal-N	g/m <sup>3</sup>	9.4	0.47	-
Total Phosphorus	g/m <sup>3</sup>	2.1	3.2	-
Total Suspended Solids	g/m <sup>3</sup>	18	17	100
Turbidity	NTU	6.8	5.3	-

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour

Compliance was observed with the pH, oil and grease limits, DRP, and suspended solids on all monitoring occasions. All other parameters were either similar or below median values of the site.

### 12.3.2.2 Results of groundwater monitoring

From the 2002-2003 period, the compliance monitoring programme has provided for a full survey of the groundwater in the immediate vicinity of the Ravensdown site to be undertaken at five sites on two occasions during each monitoring year, along with associated receiving water monitoring. The location of the monitoring bores is shown in Figure 2 and the results are given in Table 46 and Table 47.

The data presented in Table 44 shows that there is an elevation in the total and dissolved phosphorus in the groundwater bores in the vicinity of the Ravensdown site. This is especially so in GND0517 which, whilst below its historical maximum was well above the median for the site on both monitoring occasions.

The ammoniacal nitrogen concentration of the groundwater is also elevated at all three bores in the immediate vicinity of the site, with the concentrations found at GND0517, adjacent to Katere Road, continuing to be significantly above background during the period under review.

Although affected to a much lesser extent, the ammoniacal nitrogen concentration at GND1218, on the northern boundary of the site approximately 70 m from the urea store. Historical results for this site show that the ammoniacal nitrogen concentration had previously varied between 6.5 and 26.2 g/m<sup>3</sup> (Figure 15). In this period the concentrations were again elevated at 161g/m<sup>3</sup>.

Samples taken from the new bore (GND2346) used in place of GND1342 returned results significantly lower than the range of results previously reported for GND1342.

Table 46 Chemical monitoring results for the groundwater and Mangaone Stream in the vicinity of Ravensdown's old site for 16 January 2019

Parameter	Unit	GND0518	GND1217	GND1218	GND2346	GND0517	MGO000155	DWSNZ MAV
Acid soluble cadmium	g/m <sup>3</sup>	< 0.0010	0.0019	< 0.0010	< 0.0010	< 0.0010	-	0.004
Acid soluble chromium	g/m <sup>3</sup>	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	0.05
Acid soluble lead	g/m <sup>3</sup>	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	-	0.001
Acid soluble nickel	g/m <sup>3</sup>	< 0.010	0.066	< 0.010	< 0.010	< 0.010	-	0.008
Acid soluble zinc	g/m <sup>3</sup>	< 0.02	0.12	< 0.02	< 0.02	< 0.02	-	-
Dissolved reactive phosphorus	g/m <sup>3</sup>	0.1	< 0.004	< 0.004	0.185	0.54	0.006	-
Dissolved vanadium	g/m <sup>3</sup>	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0074	-	-
Electrical conductivity	mS/m	63.5	154.6	203	41.4	196.9	23.3	-
Fluoride	g/m <sup>3</sup>	0.39	1.2	< 0.05	0.15	0.24		1.5
Free ammonia	g/m <sup>3</sup>	0.0112	0.003	0.098	0.047	0.31	0.00105	
pH	-	7.2	<b>6.2</b>	<b>6.3</b>	8.1	7.2	7.5	7-8.5
Temperature	°C	17.2	17	16.9	18.5	16.5	18.5	-
Sulphate	g/m <sup>3</sup>	88	<b>590</b>	<b>470</b>	0.6	127	-	250
Total ammoniacal-N	g/m <sup>3</sup>	1.66	5.2	126	0.9	57	0.085	-
Total phosphorus	g/m <sup>3</sup>	0.5	0.025	0.049	0.189	0.57	0.02	-
Total recoverable copper	g/m <sup>3</sup>	< 0.011	0.019	< 0.011	< 0.011	< 0.011	-	2

**Key:** Results shown in bold within a table indicates that the maximum acceptable value given in the Drinking-Water Standards for New Zealand 2005 (Revised 2008) (DWSNZ MAV) has been exceeded

Table 47 Chemical monitoring results for the groundwater and Mangaone Stream in the vicinity of Ravensdown for 3 April 2019

Site	Unit	GND2346	GND1218	GND0517	MGO000155
Dissolved Reactive Phosphorus	g/m <sup>3</sup>	0.172	< 0.004	0.51	< 0.004
Electrical Conductivity @25°C	mS/m	42.1	186.2	178	23.5
Free Ammonia	g/m <sup>3</sup>	0.04	0.0186	0.25	0.00097
pH	-	8	5.8	7.2	7.4
Temperature	°C	18	17.6	17.2	15
Sulphate	g/m <sup>3</sup>	0.9	300	103	0
Total Ammoniacal-N	g/m <sup>3</sup>	1.01	82	43	0.119
Total Phosphorus	g/m <sup>3</sup>	0.196	0.034	0.58	0.022

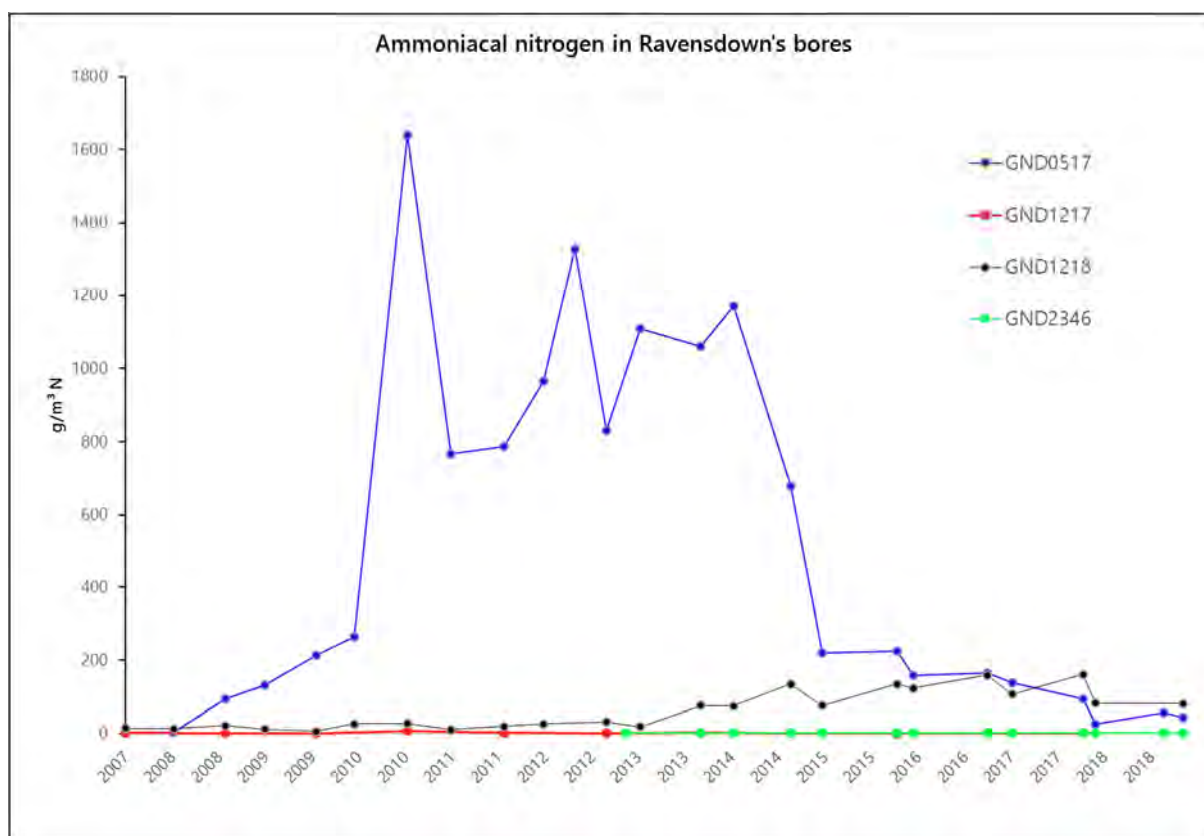


Figure 15 Ammoniacal nitrogen concentration at sites GND0517, GND1218, GND2346 and GND1217 from 2006 to June 2019

In 2003, soon after regular monitoring of this bore commenced, the ammoniacal nitrogen concentration found in this bore was 5,000 g/m<sup>3</sup>. It was identified that the phosphate rock store (Rock Store) was the likely source of contaminants due to a leaking roof and broken concrete floor. The ammoniacal nitrogen concentration dropped markedly after the store was emptied in December 2003. The ammoniacal nitrogen concentration bottomed out at approximately 3 g/m<sup>3</sup> during the 2007-2008 monitoring year before beginning to increase once again. It was subsequently found by Council that this store had been put back into use. The recoverable material was removed from the store in the middle of the 2010-2011 year, and a plastic liner was placed over the remaining material to prevent contact with stormwater entering through the leaks in the roof. Since this intervention site GND0517 has exhibited elevated and fluctuating concentrations in ammoniacal nitrogen. The Rock Store was then demolished between October 2013 and May 2014. This was accompanied with a significant decline in the concentration of ammoniacal nitrogen found at this site. A review of current data indicates that this trend appears to be continuing.

Despite the elevated ammoniacal nitrogen in the vicinity of the Ravensdown site, dry weather in-stream monitoring (Section 17.1.2) showed that during the period under review, there were only slight increases in the ammoniacal nitrogen concentration in the Mangaone Stream as it flowed past the Ravensdown site. However the levels found at the downstream site are well below the 0.025 g/m<sup>3</sup> chronic toxicity guideline for freshwater ecosystems. The dissolved reactive phosphorous concentration was found to be slightly in excess of the ANZECC trigger value of 0.010 g/m<sup>3</sup> below the site on both monitoring occasions.

At this stage no significant adverse effects are being noted in the Waiwhakaiho River or Mangaone Stream during dry weather surveys (see Section 17.1.1.2).

The results obtained for the concentrations of metals, fluoride and the pH's observed in the groundwater are generally of the same order of magnitude as found in monitoring undertaken in the previous period. For

context, with the exception of pH and sulphate results, groundwater in the vicinity of Ravensdown inorganics and metals was within DWSNZ maximum allowable values (where specified).

### 12.3.3 Receiving environment monitoring

The programmed receiving environment monitoring undertaken to monitor the condition of the receiving waters of the catchment as a whole is reported in Section 17.

### 12.3.4 Investigations, interventions, and incidents

In the 2018-2019 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. However emergent issues in regard to housekeeping and residue product entrainment was noted in June 2019, and this is being addressed in consultation with new owner 612 Devon Ltd.

Table 48 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to Ravensdown's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 48 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
16/01/2019	Groundwater analysis results have shown that the ammoniacal nitrogen concentrations in the groundwater in the Katere Road area of the site continued to be elevated.	N	No – historical issue and recent change of ownership	Monitoring indicated that the site is still leaching fertiliser residue into groundwater and that there may be some emergent stormwater issues related to the site being vacant. The consent has now been transferred to the new owners who are addressing the matter. Effect on receiving surface water was found to be minor.

## 12.4 Discussion

### 12.4.1 Discussion of site performance

In general, inspection found that housekeeping at the site during normal operations was good.

During the period under review the discharge to the Waiwhakaiho River via McLeod's drain complied with discharge limits.

Receiving water monitoring found that there were no significant adverse effects in the Waiwhakaiho River or in the Mangaone Stream.

Groundwater monitoring indicated that the ammoniacal nitrogen concentration in the groundwater on Katere Road, adjacent to the site, continued to be elevated, however Ravensdown demolished the rock store and this appears to have had a salutary effect on ammoniacal nitrogen levels in bore GND0517.

During the period under review Ravensdown completed construction of a new purpose built transfer and storage facility and operations have since moved to this new site. It is envisaged that the removal of fertilisers from the site this will have positive effect on nutrient levels in receiving waters.



The monitoring indicates that the site is still leaching fertiliser residue into groundwater and that there may be some emergent issues related the site being vacant. However the consent has now been transferred to the new owners who are addressing the matter.

### 12.4.2 Environmental effects of exercise of consents

The high ammonia and phosphorus concentrations measured at both discharge points are attributed to the dissolution of fertiliser particles carried by wind or water into the stormwater drains. A measurable increase in concentration of these nutrients below the discharge points was observed during the year under review in both receiving waters (i.e. the Mangaone and Waiwhakaiho). However, the changes were compliant with the conditions of the resource consents and were not expected to have resulted in any significant adverse effects.

During the period under review the biomonitoring reports indicate that there is a deterioration in MCI and SQMCI in the lower Mangaone which is likely to be, in part, attributable to both direct discharges and enriched groundwater intrusion associated with the old Ravensdown site.

Groundwater analysis results have shown that the ammoniacal nitrogen concentrations in the groundwater in the Katere Road area of the site continued to be elevated. However, remedial works at the site appear to be mitigating the levels of this contaminant in GND0517.

### 12.4.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Table 49.

Table 49 Summary of performance for consent 3865-4

<b>Purpose: To discharge stormwater into the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
1. Adopt best practical option	Inspection	No - leaching of fertiliser residue into groundwater
2. Limit on catchment area	Inspection	Yes
3. Limits on discharge contaminant concentrations	Discharge sampling	Yes
4. Limit on effects in receiving water	Inspection and sampling	Yes
5. Provide contingency plan	Plan received	Yes
6. Provide management plan	Plan received	Yes
7. Maintenance of groundwater bores	Inspection and sampling	Yes
8. Maintenance of site access	Inspection and sampling	Yes
9. Notification of changes	Inspection	Yes
10. Review condition	Next option for review in June 2020, recommendation attached	N/A

Purpose: <i>To discharge stormwater into the Mangaone Stream</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>Good</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A not applicable

During the period under review, Ravensdown Fertiliser Co-operative Ltd (old site) demonstrated a good level of environmental and high level of administrative performance and compliance with their resource consent and RFWP as defined in Section 1.1.5. The monitoring indicates that the site is still leaching fertiliser residue into groundwater and that there may be some emergent stormwater issues related to the site being vacant. However the consent has now been transferred to the new owners who are addressing the matter.

## 13 Ravensdown Fertiliser Co-operative Ltd new site

### 13.1 Process description

The New Plymouth depot of Ravensdown Fertiliser Co-operative Ltd (Ravensdown) occupies an area of about 8 Ha of land adjacent the KiwiRail yard (Figure 16). 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 (MAP & DAP). 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 treatment pond prior to discharge to the Mangaone Stream. Stormwater from the upper end entrance road is diverted to setting ponds and discharged to the Mangaone 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 16 Ravensdown's new site location and discharge point

### 13.2 Water discharge permit

Ravensdown holds consent 10513-1 to discharge stormwater from a fertiliser storage site onto and into land and water. This permit was issued und Section 87 (e) of the RMA on 2 February 2018 and expires 1 June 2032.

This consent contains eight of nine of the 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.

## 13.3 Results

### 13.3.1 Inspections

The Ravensdown site was inspected on two occasions on 27 November 2018 and 26 April 2019. The inspections focussed on general housekeeping, the maintenance of the treatment systems, and clarity and visual appearance of any discharges.

During the inspections it was noted there were some potential emerging risks at the site in regard to product tracking and detritus either carried onsite by birds or washed off the un-guttered roof by rain.

It was noted that an increase in housekeeping would help minimise contamination entering the stormwater system.

During the inspection of 27 November 2018 assessed the site as compliant however there appeared to be emerging risks around tracking, spilt product and other contaminants on site that are present in and around the stormwater systems. This was cleaned up by staff at the time of the inspection. It was advised that installation of stormwater grate socks and regular road sweeping will greatly improve the quality of future discharges to the Mangaone Stream.

During the 26 April 2019 inspection, discussions were held about a recent non-compliant result. A review of monitoring data noted that there was an earlier non-compliant sample. It was advised that current housekeeping practices were inadequate especially in regards to the tracking and sweeping of product in the stormwater catchment. An abatement notice was issued directing the consent holder undertake works to address the non-compliance.

### 13.3.2 Results of discharge monitoring

The discharge from the pond that treats stormwater from the roof and operation areas was sampled on two occasions.

Table 50 Chemical monitoring results for Ravensdown new site STW002097

Parameter	CBOD	Conductivity @25°C	DRP	pH	Oil and grease	Suspended solids	NH4-N	Temp.
Units	g/m <sup>3</sup>	mS/m	g/m <sup>3</sup> P	-	g/m <sup>3</sup>	g/m <sup>3</sup>		Deg.C
01 Nov 2018	4.3	33.4	4.8	7.7	b	4	<b>17.5</b>	14.3
01 Apr 2019	<b>19</b>	45.7	4.9	7.7	b	66	<b>31</b>	20.0
<i>Consent Limit</i>	<i>10</i>	-	-	6-9	<i>15</i>	<i>100</i>	<i>5</i>	-

**Key:** Results shown in bold within a table indicates that a consent limit for a particular parameter has been exceeded  
b no visible hydrocarbon sheen and no odour

The samples collected did not comply with the limits set in the consent for ammoniacal nitrogen and carbonaceous oxygen demand. All other parameters were compliant with consent conditions. An abatement notice was issued directing the consent holder undertake works to address the non-compliance. Subsequent sampling in the next monitoring period found the discharge to be compliant.

### 13.3.3 Investigations, interventions, and incidents

Table 51 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to Ravensdown's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 51 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
01/04/19	Routine sampling found that there had been a discharge of contaminants into the Mangaone Stream resulting in elevated ammoniacal nitrogen and carbonaceous biochemical oxygen demand	N	Abatement notice	Abatement notice issued requiring works to be undertaken to ensure compliance with consent conditions. Works were undertaken by the Ravensdown and subsequent sampling in the next monitoring period found the discharge compliant.

## 13.4 Discussion

### 13.4.1 Discussion of site performance

Inspections of the site treatment system and receiving drain indicated that the facility was well managed. However, emergent issues such as tracking and the accumulation of bird detritus at the site will need to be managed to ensure stormwater contamination is minimised.

### 13.4.2 Environmental effects of exercise of consent

A review of all the data obtained by sampling undertaken by Council and Ravensdown indicate that whilst their discharge was non-compliant no significant changes in indicative species such ammonia, DRP and biochemical oxygen demand were noted in receiving water. Macroinvertebrate monitoring suggests that there may have been effects either related to chronic or recent changes in water quality. As the new Ravensdown site has introduced a new potential source of contamination to the Mangaone Stream. The effects noted in the biomonitoring may in part attributable to this site.

### 13.4.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 52.

Table 52 Summary of performance for Ravensdown (new site) consent 10513-1

Purpose: <i>To discharge truck wash water via an interceptor into 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	Inspection and consultation with site operators	No – Emerging risks such as tracking of spilt product identified
2. Catchment to be limited to a certain size	Inspection and consultation with site operators	Yes
3. Limits on chemical composition of discharge	Observation during inspection and discharge sampling	No – Breach of CBOD and NH4-N limits

<b>Purpose: To discharge truck wash water via an interceptor into the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
4. Limit on effects in receiving water	Observation during inspection, macroinvertebrate sampling and receiving water sampling	Possible – Macroinvertebrate sampling suggests possible effects
5. Maintain contingency plan	Document received	Yes
6. Maintain stormwater management plan	Document received	Yes
7. Notification of changes at the site	Inspection and consultation with site operators	Yes
8. Review conditions	Next option for review in June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>Improvement required</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

During the monitoring period an improvement in Ravensdown's (new site) environmental performance and compliance with their resource consent was required as set out in Section 1.1.5. Two samples were found to be non-compliant and site housekeeping was found to be inadequate. The consent holder was issued an abatement notice and is undertaking works to address the issues. Ravensdown (new site) demonstrated a high level of administrative performance.

## 14 Taranaki Sawmills Ltd

### 14.1 Process description

Taranaki Sawmills Ltd (TSM) has operated a timber treatment plant on Katere Road since 1956. 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.

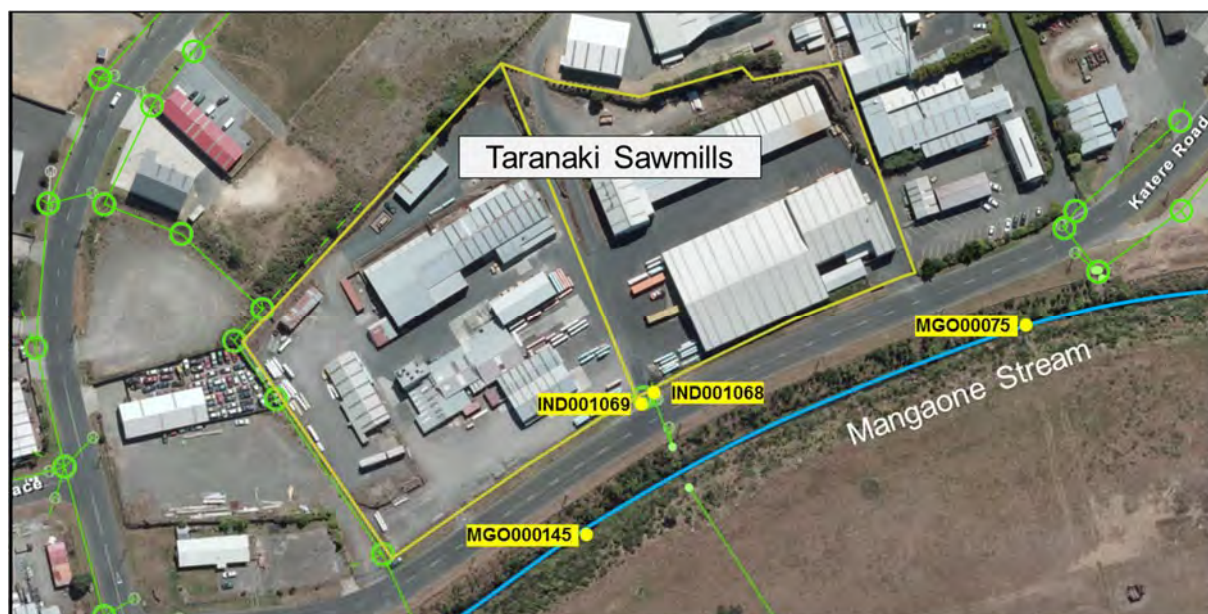


Figure 17 Taranaki Sawmills site and sampling point locations

At the CCA and boron treatment plant, all chemical storage tanks and treatment vessels were once situated in the open, within areas that were sealed and bunded for containment of spillage, and 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.

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 light organic solvent preservative (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 optimise treatment and minimise 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 channelled into two drains that join prior to exiting the site at Katere Road and discharging to the Mangaone Stream.

## 14.2 Water discharge permit

TSM holds discharge permit 3491-2 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 Waiwhakaiho catchment. This consent was granted by the Council under Section 88 of the RMA on 17 June 2006, and will expire on 1 June 2020. The consent has 17 special conditions.

A copy of the permit is attached in Appendix I.

## 14.3 Results

### 14.3.1 Inspections

TSM's site was inspected on four occasions during the monitoring period on 11 December 2018, 14 May 2019, and 30 May 2019.

The inspections focused on any evidence of spills or staining on the concreted areas, the condition of the stormwater drains and associated mitigation measures, the cooling water system (for leaks etc.), containment bunding, vehicle tracking and general housekeeping.

Consent conditions were being complied with at the time of the inspection on 11 December 2018, however elevated non-compliant zinc levels in a discharge sample on 1 November 2018 required investigation. A 14 day letter was issued in regards to the non-compliance. It was outlined that zinc was no longer used at the site and that it may be coming from inflows from neighbouring sites. An investigation found that the TSM site was the major contributing source of the zinc in the discharge and an abatement notice was issued to undertake works to ensure compliance.

### 14.3.2 Discharge chemical analysis

Historically the primary sampling point for this site was a combined discharge point on the opposite side of Katere Road (site IND001006). This was sampled on one occasion during the monitoring period, however it



was identified by the consent holder that this site could potentially be contaminated with stormwater from Katere Road and therefore the results are not included.

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. The results are presented in Table 53.

Table 53 Chemical monitoring results for TSM stormwater discharges (not including LOSP pesticides)

Parameter	Units	01 Nov 2018		27 Mar 2019		Consent limits
		IND001068	IND001069	IND001068	IND001069	
Total arsenic	g/m <sup>3</sup>	0.046	0.024	0.022	0.0065	0.24
Boron	g/m <sup>3</sup>	0.026	0.064	0.028	0.047	3.7
BOD	g/m <sup>3</sup>	3.8	5.0	3.0	3.0	-
COD	g/m <sup>3</sup>	24	68	48	30	-
Conductivity @25°C	mS/m	11.2	14.7	8.8	10.7	
Total chromium	g/m <sup>3</sup>	0.045	0.022	0.021	0.0047	0.4
Dissolved copper	g/m <sup>3</sup>	0.0172	0.0073	0.0111	0.0054	0.088
Total copper	g/m <sup>3</sup>	0.027	0.033	0.020	0.0084	
Dibutyltin (as Sn)	g/m <sup>3</sup>	0.00006	0.00014	<0.00006	<0.00006	-
Oil and Grease	g/m <sup>3</sup>	b	b	2.2	<0.7	15
pH	pH	6.9	7.4	6.8	6.6	6-9
Suspended solids	g/m <sup>3</sup>	17	-	33	30	100
Tributyltin (as Sn)	g/m <sup>3</sup>	<0.00005	0.00004	<0.00005	<0.00005	0.0046
Triphenyltin (as Sn)	g/m <sup>3</sup>	<0.00004	<0.00004	<0.00004	<0.00004	
Turbidity	NTU	63	280	17.4	22	-
Dissolved zinc	g/m <sup>3</sup>	0.36	<b>1.03</b>	0.166	<b>1.19</b>	0.64
Total zinc	g/m <sup>3</sup>	0.42	2.30	0.22	1.30	

**Key:** b parameter not determined, no visible hydrocarbon sheen and no odour

Samples taken from both of the sites complied with consent conditions in regard to constituent concentrations with the exception of dissolved zinc on both occasions at site IND001069. These non-compliances resulted in an abatement notice being issued (see section 14.3.4).

Table 54 LOSP concentrations in the TSM's discharges

Site	Date	Unit	IPBC	Permethrin	PRCA	TEBA
Site IND001068	1 Nov 2018	g/m <sup>3</sup>	<0.002	0.0027	0.028	0.029
	27 Mar 2019	g/m <sup>3</sup>	<0.002	0.0009	0.023	0.024
<b>Median</b>	-	g/m <sup>3</sup>	<b>ND</b>	<b>0.0018</b>	<b>0.026</b>	<b>0.027</b>
Site IND001069	1 Nov 2018	g/m <sup>3</sup>	<0.002	0.0168	0.089	0.102
	27 Mar 2019	g/m <sup>3</sup>	<0.002	0.0006	0.027	0.031
<b>Median</b>	-	g/m <sup>3</sup>	<b>ND</b>	<b>0.0087</b>	<b>0.058</b>	<b>0.067</b>

Monitoring of the treatment light organic solvent pesticides (LOSP) 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 all results from TSM discharges.

PRCA and TEBA were also detected in the receiving water, the levels were similar to the historical median found at the site downstream of TSM. Tributyltin tin was not detected in the Mangaone Stream.

For a further discussion on LOSP chemical please refer to the discussion section.

### 14.3.3 Sediment sampling

Sediment samples were taken on 8 February 2019 at sites up and downstream of TSM's discharges. The results are shown below in Table 55. The results show that all metals analysed were well below ANZECC guidelines and that the metal concentrations in the downstream site were similar or less than those found upstream of TSM. Dibutyltin was detected in the downstream, however this level was found to be up to 100 times lower than those noted when organo-tin pesticides were being used at the site. Permethrin was also detected in low levels at this site.

Table 55 Mangaone sediment sampling results

Parameter	Units	MGO00047 u/s TSM	MGO000145 d/s TSM	ANZECC default guideline values
Dry Matter	g/100g	21	38	-
Total Recoverable Arsenic	mg/kg dry wt	5	4	20
Total Recoverable Chromium	mg/kg dry wt	17	15	80
Total Recoverable Copper	mg/kg dry wt	58	28	65
Total Recoverable Zinc	mg/kg dry wt	137	104	200
Dibutyltin (as Sn)	mg/kg dry wt	< 0.005	0.009	-
IPBC	mg/kg dry wt	< 1.1	< 0.7	-
Permethrin	mg/kg	< 0.07	0.06	-
Propiconazole	mg/kg	< 0.16	< 0.09	-

Parameter	Units	MGO00047 u/s TSM	MGO000145 d/s TSM	ANZECC default guideline values
Tebuconazole	mg/kg	< 0.3	< 0.13	-
Tributyltin (as Sn)	mg/kg dry wt	< 0.004	0.012	9
Triphenyltin (as Sn)	mg/kg dry wt	< 0.003	< 0.003	-

#### 14.3.4 Investigations, interventions, and incidents

Table 56 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to TSM's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 56 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
11/12/2018	Analysis of samples collected during routine monitoring found zinc levels above the allowable limit.	N	Yes	Abatement notice issued. Corroded roofing iron was found to be source of zinc and re-roofing is planned.

## 14.4 Discussion

### 14.4.1 Discussion of site performance

Housekeeping at the site was considered to be good during the period under review.

Monitoring found that the remediation previously undertaken at the site to control the discharge of tributyltin from historical activities at the site continued to be effective, however zinc levels in the discharge were non-compliant and further investigation by the TSM found that galvanised roofing iron on one of the buildings at the site was the source of the zinc.

### 14.4.2 Environmental effects of exercise of consent

Council sampling surveys showed that, during the period under review, the conditions imposed on consent 3491 relating to receiving water quality.

During the period under review, tributyltin was not detected in the water column downstream of the TSM discharge at site MG000145. On 1 November 2018 one of the replacement treatment chemicals (PRCA) now in use was found to be present in the survey undertaken in the stream at concentrations comparable with historical medians.

In terms of effects from the elevated level of these fungicides in the stream, the European Chemical Agency Risk Assessment Committee<sup>2</sup> found that, for chronic toxicity, TEBA had 'no observable effect concentrations' (NOEC's) of between 1 g/m<sup>3</sup> and 0.01 g/m<sup>3</sup> (for various species of fish and invertebrates). Similar NOEC's

<sup>2</sup> European Chemical Agency Risk Assessment Committee (2013): Annex 1 Background document to the Opinion proposing harmonised classification and labelling at Community level of Tebuconazole

have also been noted for PRCA<sup>3</sup>. Under this criteria the instream medians of 0.0002 g/m<sup>3</sup> for TEBA and 0.0002 g/m<sup>3</sup> for PRCA would be below the NOEC values, though not necessarily desirable. Historically instream values for these chemicals are in the 0.0001 to 0.0005 g/m<sup>3</sup> range and this is reflected in the most recent sample taken (after this reporting period).

Limited sampling upstream of TSM (at site MGO000075 ) found very low levels of TEBA and PRCA that were below EEL concentrations, however their presence indicate that there may also be other sources of these compounds in the catchment.

Based on the empirical NOEC values it is assessed that the levels of PRCA, found in the Mangaone Stream are not likely to be having significant effects on aquatic life.

In the monitoring period non-compliant zinc concentrations were found in three discharge samples, however the total zinc found in the receiving water downstream was found to be 0.0091 g/m<sup>3</sup> which was below the ANZECC default freshwater 90% protection limit of 0.015 g/m<sup>3</sup>.

### 14.4.3 Evaluation of performance

A tabular summary of the TSM's compliance record for the period under review is set out in Table 57.

Table 57 Summary of performance for TSM's consent 3491-2

<b>Purpose: To discharge cooling water, wastewater and stormwater into the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
1. Adoption of best practicable option	Inspection and discussion with consent holder	Yes
2. Exercise of consent in accordance with application information	Inspection and discussion with consent holder	Yes
3. Adherence to Timber Treatment Best Practice Guideline	Inspection and discussion with consent holder	Yes
4. Bunding to meet HSNO requirements by 31 March 2007	Inspection and discussion with consent holder	No HSNO stationary container certification yet, but compliance plan with EPA
5. Limits stormwater catchment area	Site inspections	Yes
6. Limit on daily wastewater discharge volume of 12,000 L/day	Discussion at inspection. Discharge directed to sewer	Yes
7. Concentration limits upon potential contaminants in discharge	Chemical sampling	No – two non-compliant samples (zinc)
8. Discharge cannot cause specified adverse effects beyond mixing zone	Visual assessment at inspection and receiving water sampling, and biomonitoring	Yes
9. Limit on pH effects beyond the mix zone	Chemical sampling of the discharge and receiving water	Yes

<sup>3</sup> Cawthron Institute (2013): Report 2357 Ecotoxicity review of 26 pesticides.

<b>Purpose: To discharge cooling water, wastewater and stormwater into the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
10. Limits on temperature effects and filtered carbonaceous biochemical oxygen demand (FCBOD) beyond mix zone	Chemical sampling of the discharge and receiving water, and recording the temperatures at the time of sampling	Yes
11. Investigation into specific biocide levels in discharge and receiving environment	Condition met previously	N/A
12. Investigation into dissolved copper levels in discharge and receiving environment	Condition met previously	N/A
13. Report on investigations to be received by 30 August 2007	Report received 30 August 2007	N/A
14. Maintain and prepare contingency plan	Reviewed plan received 2018	Yes
15. Provision for consent to lapse if not exercised	Consent exercised	N/A
16. Provision for review re effects	No further opportunities for review	N/A
17. Provision for review if amendments to HSNO regulations or Timber Treatment Guidelines	N/A	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>Good</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

During the period under review, Taranaki Sawmills Ltd's level of environmental performance was rated as 'Good' and they achieved a high level of administrative performance and compliance with the resource consents as defined in Section 1.1.5 in relation to its site on Katere Road. There were non-compliant discharge samples in which elevated zinc concentrations were found. An abatement notice was issued to deal with this matter.

## 15 Technix Group Ltd

### 15.1 Process description

The engineering complex of Technix Group Ltd (Technix) is the largest industrial site along the lower Waiwhakaiho River (Figure 18). Situated on the true right bank of the river immediately above its confluence with the Mangaone Stream, the 8.4 ha area of land is bounded by Rifle Range Road, Vickers Road, State Highway 3, and the Mangaone Stream. The development comprises several building complexes, roading and drainage systems.

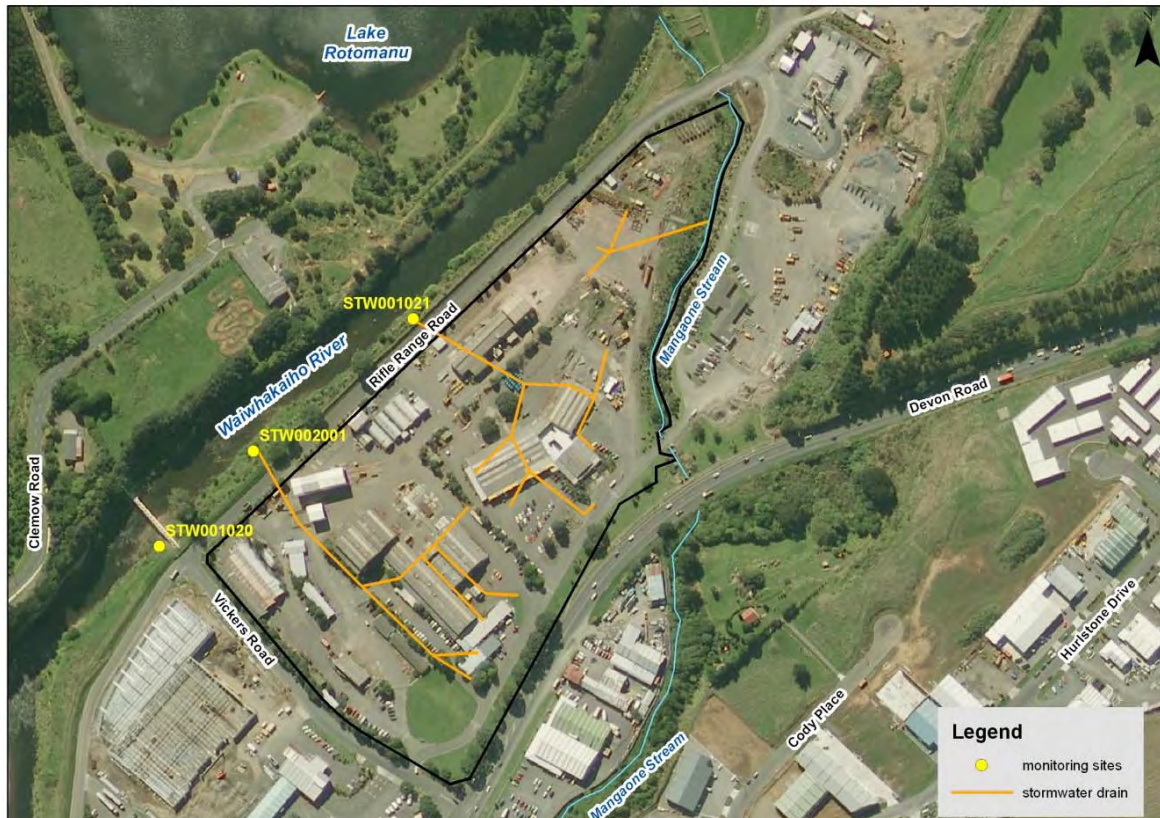


Figure 18 Technix site, drainage system and sampling point locations

Technix Group leases buildings on the site to several tenant companies carrying out a range of activities.

The ground surface cover varies from bitumen seal to gravel to grass. There is a large sealed bitumen area in the northern part of the site that was once used as a truck stop.

Stormwater discharges from the site at four main points, three to the Waiwhakaiho River and one to the Mangaone Stream.

The original consented discharges were; the two discharges to the Waiwhakaiho River from the central areas of the site, and the one to the Mangaone Stream from the eastern area of the site. The other, previously unlicensed, discharge occurs from the western area of the site to the Waiwhakaiho River down Vickers Road, which also serves commercial properties on the opposite side of the road. This discharge point was included in NPDC's consent 5163-2 when it was renewed on 20 November 2007. Also during the 2007-2008 year, prior to the expiry of the consent held for the discharges to the Mangaone Stream (2230), the Council concluded that the activity in this area had become a permitted activity under Rule 23 of the RFWP (which became operative in 2001) provided the conditions of Rule 23 continued to be adhered to by Technix. Council therefore did not require that this consent was renewed.

Activities at the site may result in contaminants being discharged to land during the day-to-day tasks. These contaminants may enter water when they become entrained in stormwater, along with contaminants that may be washed off equipment stored in the yard, and the stormwater is then discharged to the Waiwhakaiho River or Mangaone Stream.

The buildings and land-use in the areas owned by Technix include:

- Staff offices and facilities;
- Workshops (machining, plate and general);
- Dangerous goods storage;
- Liquid oxygen tanks;
- Blast and paint storage and
- Blasting and painting sheds (until February 2014).

Contaminants that may be present on the site include:

- Grease and oils (e.g. diesel, petrol, lubricants & hydraulic oils);
- Metals (ferrous and non-ferrous);
- Paint;
- General workshop contaminants (e.g. welding, cuttings and grinding).

The stormwater area for consent 0291 covers the centre section of the site. The stormwater networks run around the perimeter of the building before running under the FEGL property and into the Waiwhakaiho River via a stormwater drain (STW001021). There are multiple sumps along this system to collect any stormwater. The feed pipes have an internal diameter of 150 mm and the discharge pipe has an internal diameter of 225 mm.

This site also has a truck wash bay, currently if the truck wash is used the valve joining the truck wash and stormwater network is closed. Once the cleaning is finished the user must clean the truck wash, including emptying the separator pits, before opening the valve to allow stormwater to enter the network from the truck wash.

The western area of the site collects the stormwater in a series of pipes ranging between 100 mm and 200 mm in diameter. These pipes discharge onto either Vickers or Rifle Range Road and enter NPDC's stormwater network (which discharges into the Waiwhakaiho River).

The northern area of the site is primarily used as a storage yard, with any stormwater collected discharging via a 375 mm concrete stormwater pipe into the Mangaone Stream.

As Technix leases sections within the multiple areas of its site, the specific type of contaminants can change depending on which business leases the section. Technix makes all tenants aware of the stormwater resource consent, the conditions of the consent, and the spill contingency plan.

## 15.2 Water discharge permits

Technix now hold consents 9981-1, 9982-1 and 0291-3 to discharge stormwater from an industrial site into the Waiwhakaiho River and Mangaone Stream.

Consents 9981-1, 9982-1 and 0291-3 have the standard special conditions as set out in section 1.2. Consent 0291-3 also has a condition prohibiting discharge from the truck wash to the stormwater network.

## 15.3 Results

### 15.3.1 Inspections

The site was inspected on two occasions during the monitoring period, on 6 December 2018, and 7 May 2019.

The inspections focussed on treatment systems, evidence of any spills or leaks, the condition of the drains, and general housekeeping.

It was noted that the yard and storage areas were much tidier than observed during previous inspections. During the inspection on 7 May 2019 there was bitumen being stored on site and it was outlined that this would be removed from the stormwater catchment. The inspecting officer noted that if bitumen storage was required long term, Technix would need to find a more appropriate area to store it to prevent contamination of stormwater.

### 15.3.2 Results of discharge monitoring

There were three routine sampling points for monitoring of stormwater discharges from Technix's site, all in relation to the Waiwhakaiho River. They were the storm drain outlets at the bottom of Vickers Road where the discharge has combined with a (previously unlicensed) NPDC discharge, opposite FEGL's plate shop (consent 0021), and opposite FEGL's blast and paint shop (consent 0291).

#### Opposite FEGL's blast and paint (Consent 0291)

This discharge contains stormwater from both the Technix and FEGL sites. Up until 20 February 2014, this combined discharge was covered solely by consent 0291 held by Technix. The partial transfer of consent to FEGL resulted in the FEGL stormwater being covered by their own consent (9853). The results of sampling are presented in Table 58.

Table 58 Chemical monitoring results for combined Technix/Vickers Road discharge site STW002001

Parameter	Conductivity@25°C	Oil and Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
8 Nov 2018	8.5	<0.4	7.4	11	16.6	13.6
<i>Consent limits</i>	-	15	6-9	100	-	-

#### Vickers Road discharge (consent 9981-1)

This discharge contains stormwater from the south-western end of the Technix site that discharges via NPDC's stormwater reticulation running along Vickers Road. The discharge also contains stormwater from Vickers Road itself as reported in section 9. The results of sampling are presented in Table 59.

Table 59 Chemical monitoring results for combined Technix/Vickers Road discharge site STW001020

Parameter	Conductivity@25°C	Oil and Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
26 Oct 2018	28.1	<0.7	7.8	31	-	39
27 Nov 2018	80.1	<0.7	6.8	45	16.0	130
<i>Consent limits</i>	-	15	6-9	100	-	-



### Discharge to Mangaone Stream discharge (consent 9982-1)

This discharge contains stormwater from the north eastern end of the Technix site which is discharged to the Mangaone Stream. The results of sampling of this area are shown in Table 60.

Table 60 Chemical monitoring results for Technix discharge to the Mangaone-site STW001154

Parameter	Conductivity@25°C	Oil and Grease	pH	Suspended solids	Temp	Turbidity
Unit	mS/m	g/m <sup>3</sup>	pH	g/m <sup>3</sup>	Deg.C	NTU
01 Apr 2019	nd	nd	nd	nd	nd	nd
<i>Consent limits</i>	-	15	6-9	100	-	-

**Key:** nd sample not collected, no discharge

All samples taken from Technix's discharge sites were found to be compliant with consent conditions.

## 15.4 Investigations, interventions, and incidents

In the 2018-2019 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.

## 15.5 Discussion

### 15.5.1 Discussion of site performance

Housekeeping at the site over the monitoring period was generally good, however some issues were noted in regards to materials being stored on the site without primary containment.

The stormwater discharges from the site were found to be compliant with consent conditions on all monitoring occasions.

### 15.5.2 Environmental effects of exercise of consents

There were no adverse environmental effects noted in the receiving environment as a result of Technix discharges.

### 15.5.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 61, Table 62 and Table 63.

Table 61 Summary of performance for Technix's consent 0291-3

Purpose: <i>To discharge stormwater from an industrial site into the Waiwhakaiho River</i>		
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

<b>Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
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	Review of documentation received	Yes
7. Preparation of Stormwater Management Plan	Plan Received	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 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

Table 62 Summary of performance for Technix's consent 9981-1

<b>Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
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
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 approved by Council in July 2014	Yes

<b>Purpose: To discharge stormwater from an industrial site into the Waiwhakaiho River</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
6. Preparation of Stormwater Management Plan	Plan provided	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 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

Table 63 Summary of performance for Technix's consent 9982-1

<b>Purpose: To discharge stormwater from an industrial site into the Mangaone Stream</b>		
<b>Condition requirement</b>	<b>Means of monitoring during period under review</b>	<b>Compliance achieved?</b>
1. Best practicable option to prevent or minimise adverse effects	Inspections	Yes
2. Catchment area not to exceed 1.3 ha	Inspections	Yes
3. Concentration limits upon potential 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. Prepare and maintain Contingency Plan	Review of documentation received. Latest version approved by Council in July 2014	Yes
6. Preparation of Stormwater Management Plan	Plan received	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 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

During the period under review, Technix Group Ltd demonstrated a high level of environmental performance and high level of administrative performance and compliance with their resource consents as defined in Section 1.1.5 in relation its sites on Rifle Range Road.

## 16 Waste Management NZ Ltd

### 16.1 Process description

Waste Management NZ Ltd (WML) operate a refuse transfer depot on Katere Road, New Plymouth. 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 the New Plymouth District Council (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 19 WML's site and discharge point

### 16.2 Water discharge permit

WML holds consent 10430-1 to discharge stormwater from a waste depot into an unnamed tributary of the Mangaone Stream. This permit was issued und Section 87 (e) of the RMA on 27 October 2017 and expires 1 June 2032.

This consent contains nine conditions, eight of which are the standard special conditions as set out in Section 1.2. Condition four which set out the discharge contaminant limits, includes carbonaceous biochemical oxygen demand.

A copy of the permit is attached to this report in Appendix I.

## 16.3 Results

### 16.3.1 Inspections

WML's site was inspected on two occasions on 13 November 2018 and 2 May 2019. The inspections focussed on general housekeeping, the maintenance of the treatment systems, and clarity and visual appearance of any discharges.

It was noted during the inspection in November that, while compliant, improvements were needed to reduce/prevent rubbish blowing off the site. Plans were in place for installing raised fencing around the loading area, and this had been completed by the time of the second inspection.

### 16.3.2 Results of discharge monitoring

The discharge from WML's site was undertaken one occasion at site STW002098, and the results are given in Table 64.

Table 64 Chemical monitoring results for WML's transfer station – site STW002098

Parameter	BODC	Ammoniacal nitrogen	Conductivity @25°C	DRP	pH	Oil and grease	Suspended solids	Temp
Units	g/m <sup>3</sup>	g/m <sup>3</sup>	mS/m	g/m <sup>3</sup> P	-	g/m <sup>3</sup>	g/m <sup>3</sup>	Deg.C
08 Nov 2018	4.0	0.22	14.2	0.008	7.1	<0.7	62	14.5
01 Apr 2019	4.0	0.56	9.7	0.107	6.8	<0.7	28	20.0
<i>Consent Limit</i>	<i>20</i>	-	-	-	6-9	15	100*	-

\*No suspended solids consent condition- this is RFWP guideline

The samples collected complied with the carbonaceous biochemical oxygen demand limit, oil and grease limit, and pH limits set by the consent.

### 16.3.3 Investigations, interventions, and incidents

Table 65 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to WML's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 65 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
25/02/2019	A complaint was received regarding rubbish blowing off site onto the surrounding area of Katere Road. Investigation found wind-blown rubbish beyond the site boundary and a site meeting was held with the manager. A clean up was undertaken by the company	N	14 day letter requesting explanation.	Letter of explanation received and accepted. 7m high fence has been built to contain any wind-blown refuse to the site

## 16.4 Discussion

### 16.4.1 Discussion of site performance

Inspections of the site treatment system and receiving drain indicated that the facility was reasonably well managed. However emergent issues such as tracking, and bird detritus will need to be managed to ensure stormwater contamination is minimised. There was one complaint about windblown rubbish which was addressed by the erection of a seven metre litter fence.

### 16.4.2 Environmental effects of exercise of consent

There were no adverse effects found during the period under review that were attributable to activities at the WML's site.

### 16.4.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 66.

Table 66 Summary of performance for Waste Management's consent 10430-1

<b>Purpose: To discharge stormwater from a waste depot into an unnamed tributary of the Mangaone Stream</b>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practicable option to avoid, remedy or mitigate effects	Inspection and consultation with site operators	No-rubbish blowing offsite
2. Leachate to be diverted from stormwater by certain date	Inspection and consultation with site operators	Yes
3. Limit on catchment size	Inspection and consultation with site operators	Yes
4. Limits on chemical composition of discharge	Observation during inspection and discharge sampling	Yes
5. Limit on effects in receiving water	Observation during inspection and sampling	Yes
6. Maintain contingency plan	Document received	Yes
7. Maintain stormwater management plan	Document received	Yes
8. Notification of changes at the site	Inspection and consultation with site operators	Yes

<i>Purpose: 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?
9. Review conditions	Next option for review in June 2020, recommendation attached	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>Good</b>
Overall assessment of administrative performance in respect of this consent		<b>High</b>

N/A = not applicable

During the period under review, Waste Management NZ Ltd demonstrated a good level of environmental and high level of administrative performance and compliance with their resource consent and RFWP as defined in Section 1.1.5



## 17 Surface receiving water quality

### 17.1 Chemical analyses

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.

#### 17.1.1 Waiwhakaiho River

The lower Waiwhakaiho River was sampled at four points under wet weather (discharge monitoring) and three points under dry weather (groundwater monitoring) conditions:

**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.

**Opposite Firth's (site code WKH000925):** On the eastern side, upstream of the site of the old concrete ford opposite Firth Industries, about 540 metres below Constance Street and 280 metres below the confluence with McLeod's Drain. This was effectively the lower mixing zone boundary for the discharge from McLeod's Drain (consent 3138), which serves the largest catchment in the Fitzroy area, including the fertiliser depot (consent 3140) and rail yard (consent 1735). The ford was removed in April 1997 as part of flood protection works.

**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 metres from the river mouth. This is the downstream monitoring site for discharges from Firth (consent 0392), FEGL (consent 0021 and 9853), and the Technix operations along Rifle Range Road (consents 0291, 9981).

##### 17.1.1.1 Wet weather surveys

With the exception of a very minor increases in the concentration of ammoniacal nitrogen (and its conjugate species unionised ammonia) and turbidity, there was no discernible trend of increasing contaminant concentrations between the up and downstream receiving waters (Table 67).

The highest concentrations of ammoniacal nitrogen and unionised ammonia were well below ANZECC trigger guideline of 0.9 g/m<sup>3</sup> and the RFWP guideline of 0.025 g/m<sup>3</sup>.

With the exception of one result the instream levels of dissolved reactive phosphorous both up and downstream of the industrial area were found to be below the 0.15-0.03 g/m<sup>3</sup> range that may support algal growths.

Table 67 Results of wet weather chemical monitoring of lower Waiwhakaiho River

Parameter		Merrilands Domain	Constance Street	Opposite Firth's (Ford)	Above Mangaone Confluence
26 Oct 2018		WKH000800	WKH000920	WKH000925	WKH000942
Time	NZST	12:45	11:05	11:40	12:50
DRP	g/m <sup>3</sup> P	0.011	0.010	0.010	0.010
Conductivity	mS/m@25°C	15.7	16.2	16.2	15.9
Fluoride	g/m <sup>3</sup>	-	0.08	0.09	0.09
Nitrite/Nitrate	g/m <sup>3</sup> N	-	0.034	-	0.028
pH	-	8.0	7.7	7.87	8.0
Ammoniacal nitrogen	g/m <sup>3</sup> N	< 0.010	< 0.010	0.040	< 0.010
Suspended solids	g/m <sup>3</sup>	< 3	< 3	< 3	< 3
Turbidity	NTU	0.63	1.31	0.70	0.76
Temperature	Deg.C	-	-	15.1	15.1

#### 17.1.1.2 Dry weather surveys

The sample results for the dry weather surveys (Table 68) show that all of the contaminants analysed for were generally relatively stable through the stretch of the river that was monitored. There were slight variations in the concentrations of ammoniacal nitrogen (and its conjugate species unionised ammonia). However the highest concentrations of ammoniacal nitrogen and unionised ammonia found were well below ANZECC trigger guideline of 0.9 g/m<sup>3</sup> and the RFWP guideline of 0.025 g/m<sup>3</sup> respectively. All results for DRP obtained during the dry weather surveys were below the 0.03-0.15 g/m<sup>3</sup> range that may support algal growths.

All other parameters were found to be at acceptable ranges.

Table 68 Results of dry weather chemical monitoring of lower Waiwhakaiho River

Parameter		Waiwhakaiho		
		Constance Street	Opposite Firth's (Ford)	Above Mangaone Confluence
17 Jan 2019		WKH000920	WKH000925	WKH000942
Time	NZST	09:30	09:52	10:25
DRP	g/m <sup>3</sup> P	0.014	0.014	0.014
Conductivity	mS/m@25°C	13.1	12.9	12.7
Unionised ammonia	g/m <sup>3</sup>	< 0.0003	0.0008	< 0.0015
pH		7.7	8.1	8.5
Temperature	Deg.C	19.7	20.3	21.2
Ammoniacal nitrogen	g/m <sup>3</sup> N	< 0.010	0.013	< 0.010
Turbidity	NTU	1.04	0.79	1.61

Parameter		Waiwhakaiho		
		Constance Street	Opposite Firth's (Ford)	Above Mangaone Confluence
3 April 2019		WKH000920	WKH000925	WKH000942
Time	NZST	14:10	14:25	13:55
DRP	g/m <sup>3</sup> P	0.014	0.012	0.014
Conductivity	mS/m@25°C	11.1	11.4	11.2
Unionised ammonia	g/m <sup>3</sup>	0.00022	0.00048	0.00019
pH		7.5	7.9	7.5
Temperature	Deg.C	16.6	16.2	16.6
Ammoniacal nitrogen	g/m <sup>3</sup> N	0.019	0.017	0.016
Turbidity	NTU	1.10	1.04	0.86

## 17.1.2 Mangaone Stream

The Mangaone Stream was sampled at up to six points during wet weather and at two points during dry weather.

### 17.1.2.1 Wet weather survey

The wet weather sites are as follows:

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

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

Thirty meters downstream of TSM (site code MGO000145): also established in 2007, this site is at the end of the mix zone specified in TSM's resource consent.

Above Ravensdown (site code MGO000148): a site established in 1996 immediately above the main stormwater drain of Ravensdown's depot (and also above the confluence of the Mangamiro Stream) 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 Ravensdown's site.

Katere Road bridge (site code MGO000153): below the discharge from Ravensdown's depot. This site is at the end of the mixing zone specified in Ravensdown's consent 3865.

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

In this monitoring period weather constraints prevented a full sampling run from being completed in one day. The upper reaches and associated discharges were sampled on 1 November 2018 whilst the mid to lower reaches and discharges were sampled on 8 November 2018.

The results of this monitoring are given in the tables below.

Table 69 Results of wet weather chemical monitoring of Mangaone Stream 1 November 2018

Parameter		Egmont Road	D/S Katere Stores and NPDC	D/S Taranaki Sawmills	Above Ravensdown	Katere Road bridge
1 November 2018		MGO000050	MGO000075	MGO000145	MGO000148	MGO000153
Time	NZST	09:45	Not sampled as site access unsafe	11:35	08:10	11:55
Arsenic Total	g/m <sup>3</sup>	-		<0.0011	-	-
Boron	g/m <sup>3</sup>	-		0.030	0.038	-
BODCF	g/m <sup>3</sup>	-		<1.0	-	-
Conductivity @ 25°C	mS/m	20.4		19.6	19.4	20.0
Total chromium	g/m <sup>3</sup>	-		0.00113	-	-
Acid soluble copper	g/m <sup>3</sup>	<0.010		-	-	-
Dissolved copper	g/m <sup>3</sup>	0.0007		-	-	-
Total copper	g/m <sup>3</sup>	-		0.00150	-	-
Dibutyltin (as Sn)	g/m <sup>3</sup>	-		<0.00006	-	-
Dissolved Reactive P	g/m <sup>3</sup>	-		<0.004	-	0.023
IPBC	g/m <sup>3</sup>	-		<0.0002	-	-
Un-ionised ammonia	g/m <sup>3</sup>	-		0.00072	-	0.00203
Ammoniacal nitrogen	g/m <sup>3</sup>	-		0.089	-	0.161
Nitrate/nitrite	g/m <sup>3</sup>	-		-	0.78	-
Oil and grease	g/m <sup>3</sup>	b		b	b	b
pH	g/m <sup>3</sup>	7.3		7.4	7.4	7.6
Permethrin	pH	-		<0.00002	-	-
Propiconazole	g/m <sup>3</sup>	-		0.00004	-	-
Suspended solids	g/m <sup>3</sup>	<3		7	92	<3
Tributyltin (as Sn)	g/m <sup>3</sup>	-		<0.00005	-	-
Tebuconazole	g/m <sup>3</sup>	-		<0.00004	-	-
Temperature	Deg.C	14.3		14.8	14.0	14.6
Triphenyltin (as Sn)	g/m <sup>3</sup>	-		<0.00004	-	-
Turbidity	NTU	2.0		5.5	21	2.1
Acid soluble zinc	g/m <sup>3</sup>	<0.02		-	-	-
Dissolved zinc	g/m <sup>3</sup>	<0.0010		-	-	-
Zinc total	g/m <sup>3</sup>	-	0.0091	-	-	

Table 70 Results of wet weather chemical monitoring of Mangaone Stream 8 November 2018

Parameter		Katere Road bridge	Rifle Range Road
8 November 2018		MGO000153	MGO000190
Time	NZST	0930	0825
Conductivity @ 25°C	mS/m	19.0	26.5
Acid soluble copper	g/m <sup>3</sup>	-	<0.001
Dissolved copper	g/m <sup>3</sup>	-	0.012
Dissolved Reactive P	g/m <sup>3</sup>	0.022	0.045
Un-ionised ammonia	g/m <sup>3</sup>	0.00072	0.00001
Ammoniacal nitrogen	g/m <sup>3</sup>	0.110	0.24
Oil and grease	g/m <sup>3</sup>	b	b
pH	g/m <sup>3</sup>	7.3	6.9
Suspended solids	g/m <sup>3</sup>	<3	135
Temperature	Deg.C	15.8	16.1
Turbidity	NTU	2.5	28
Acid soluble zinc	g/m <sup>3</sup>	-	0.04
Dissolved zinc	g/m <sup>3</sup>	-	0.0084

The results show that there were downstream increases in the ammoniacal nitrogen and dissolved reactive phosphorus (DRP) concentrations along the stretch of the Mangaone Stream monitored. The median value for each site show that historically, the sites below Ravensdown site and its discharges are elevated when compared to the upstream sites. During this monitoring period the results were either similar or below the historical medians for each site and all results for unionised ammonia were well below the RFWP guideline value of 0.025 g/m<sup>3</sup>.

DRP was also found to increase at the site downstream of the Ravensdown site, however all values were found to be similar or below the historical medians. DRP concentrations appear have reduced at this site since Ravensdown decommissioned and demolished the rock store. In the event that the site is completely demolished and remediated it is expected that phosphorus levels will improve.

BODCF concentrations (where measured) during the monitoring year were also found to be low and within RFWP guideline limits.

Tributyltin was not detected in the water column downstream of the TSM discharge during the monitoring period. Two of the replacement treatment chemicals now in use were found to be present in the stream.

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 to monitor the effects of stormwater discharged upstream of the industries monitored under this programme, from McKechnie Aluminium Solutions Ltd as part of their compliance monitoring programme. It is noted that historically, copper and brass were also processed at this site.

Table 71 Results of chemical monitoring of the Mangaone Stream at Egmont Road for McKechnie Aluminum Solutions Ltd compliance monitoring site MGO000050

Parameter	Unit	Wet Run	Wet run
		01 Nov 2018	31 May 2019
Conductivity @ 25°C	mS/m	20.4	20.3
Copper Acid Soluble	g/m <sup>3</sup>	<0.010	-
Total Copper	g/m <sup>3</sup>	-	0.00131
Copper Dissolved	g/m <sup>3</sup>	0.0007	0.0010
pH	pH	7.3	7.2
Suspended solids	g/m <sup>3</sup>	<3	5
Temperature	Deg.C	14.3	14.7
Zinc Acid Soluble	g/m <sup>3</sup>	<0.02	-
Total zinc		-	0.0026
Zinc Dissolved	g/m <sup>3</sup>	<0.0010	0.0020

On these monitoring occasions, the copper and zinc concentrations in the receiving water were found to be low upstream of the industries monitored in the Lower Waiwhakaiho Catchment Monitoring Programme (Table 71).

#### 17.1.2.2 Dry weather surveys

During the period under review dry weather monitoring was undertaken in the Mangaone Stream in conjunction with monitoring of the groundwater in the vicinity of the Ravensdown site (Section 13.3.2.3). Historically two sites were monitored; MGO000151, approximately 20 m downstream of the Ravensdown rear drain, and MGO000155, approximately 15 m downstream of the Katere Road Bridge. However in recent surveys, site access at MGO000151 has not been possible due to health and safety concerns. MGO000155 is still being sampled and this period the ammoniacal nitrogen concentrations were found below the median for the site on both dry weather surveys. Both results were also below the default ANZECC guideline of 0.9 g/m<sup>3</sup>.

As this monitoring is predominantly carried out to assess potential effects from the Ravensdown store, the full results of these surveys are reported in Section 13.3.2.3.

## 17.2 Freshwater biomonitoring programme

### 17.2.1 Macroinvertebrate surveys

Surveys of benthic macroinvertebrates and microflora in the lower Waiwhakaiho River and/or Mangaone Stream were carried out on 20 November 2018 and 8 February 2019. Three sites in the Waiwhakaiho River and five sites in the Mangaone Stream were sampled. A summary of discussion and conclusions of each survey is given below.

The reports both conclude that the results from the surveys indicate that the discharges from the Fitzroy industrial areas were not having a significant effect on the macroinvertebrate communities in the Waiwhakaiho River. The reports also both conclude that the results from the Mangaone Stream indicate the possible effects of groundwater contamination in the vicinity of Ravensdown, however that an overall degradation of the macroinvertebrate community index (MCI) scores persist as one moves downstream

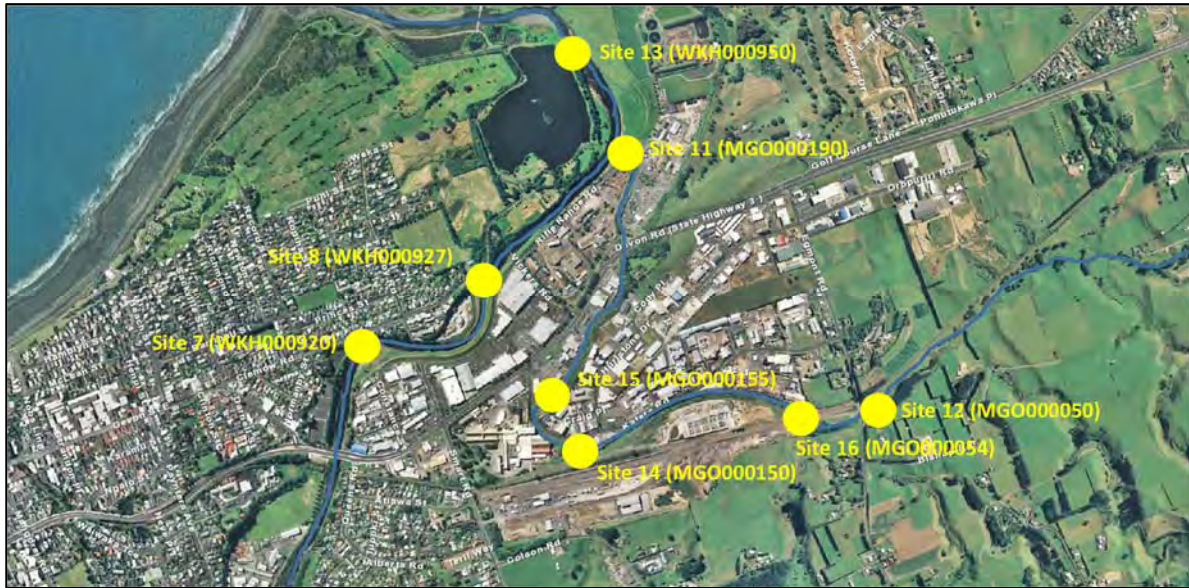


Figure 20 Biomonitoring sites in the Lower Waiwhakaiho River Catchment

#### 17.2.1.1 Macroinvertebrate survey of 20 November 2018

The Council collected streambed macroinvertebrates at five sites in the Mangaone Stream and three sites in the Waiwhakaiho River on 20 November 2018, in order to assess whether discharges from the Lower Waiwhakaiho Industrial area had had any adverse effects on the macroinvertebrate communities of these streams. 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.

The three Waiwhakaiho River sites all had moderate macroinvertebrate richnesses with the two potential 'impact' sites both having the slightly higher or very similar taxa richnesses to the 'control' site richness. This indicates that no significant toxic discharges had occurred. Taxa richnesses among the five Mangaone Stream sites varied significantly. The upper two sites had moderate taxa richness but there was a decline in richness evident below site 16 with moderately low to low taxa richness recorded at the three downstream sites. The low taxa richnesses, while not very low, were suggestive that the lower Mangaone Stream communities had recently been subjected to mild pollution or potentially were recovering from more severe pollution.

The MCI scores for the Waiwhakaiho River sites indicated that all three sites were in 'fair' health with no significant differences between sites or to historic medians. The MCI scores for the Mangaone Stream sites indicated that site 12 was in 'fair' health, sites 16, 14 and 11 were in 'poor' health and site 15 in 'very poor' health. There was a significant decline between site 16 and the three most downstream sites, congruent with the taxa richness results. The SQMCI scores for the Waiwhakaiho River sites indicated communities in 'poor' health but there were no significant differences between sites or between historic medians, matching what was found using the MCI scores. The SQMCI scores for the Mangaone Stream sites indicated communities in 'fair' health for the upper two sites, while sites 14 and 15 were both in 'very poor' health

and the most downstream site was in 'poor' health. The results were again congruent with the MCI scores indicating water quality had significantly decreased between site 16 and 14.

Overall, the results indicated that discharges from the industrial area were not having a significant negative effect on the macroinvertebrate communities in the lower Waiwhakaiho River. The Mangaone Stream had a significant decline in macroinvertebrate indices between sites 16 and 14, which may be due in part to chronic pollution from historic sites but the results suggest that a more recent discharge lowering water quality has also occurred.

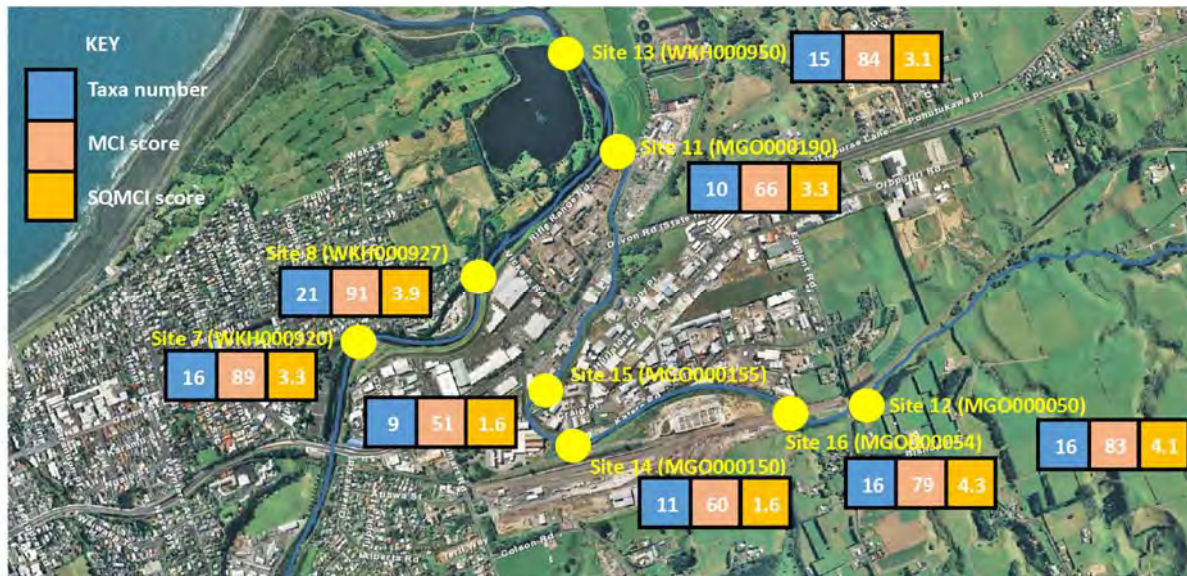


Figure 21 Biomonitoring sites in the Waiwhakaiho River Catchment with taxa number, MCI scores and SQMCI scores for each site (20 November 2018).

#### 17.2.1.2 Macroinvertebrate survey of 8 February 2019

The Council collected streambed macroinvertebrates at five sites in the Mangaone Stream and three sites in the Waiwhakaiho River on 8 February 2019, in order to assess whether discharges from the Lower Waiwhakaiho Industrial area had had any adverse effects on the macroinvertebrate communities of these streams. 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 three Waiwhakaiho River sites all had low macroinvertebrate richness with the two potential 'impact' sites both having the slightly higher or very similar taxa richnesses to the 'control' site richness. The taxa richness at the upstream and furthest downstream sites were the lowest recorded at these sites. This indicates that no significant toxic discharges had occurred within the Fitzroy industrial area. Taxa richness among the five Mangaone Stream sites varied significantly. The upper two sites had moderate taxa richness but there was a decline in richness evident below site 16 with moderately low to low taxa richness recorded at the three downstream sites. The low taxa richness, while not very low, were suggestive that the lower Mangaone Stream communities had recently been subjected to mild pollution or potentially were recovering from more severe pollution.

The MCI scores for the Waiwhakaiho River sites indicated that the two lower sites were in 'fair' health with no significant differences between sites or to historic medians. In contrast, the uppermost site was classed as having 'poor' health and recorded the lowest score to date for this site to date, which was significantly lower than the preceding result, the historic median, and the two downstream sites. The MCI scores for the Mangaone Stream sites indicated that site 12 was in 'fair' health, sites 16 and 11 were in 'poor' health and sites 14 and 15 in 'very poor' health. There was a significant decline between site 16 and the three most



downstream sites, congruent with the taxa richness results. The SQMCI scores for the Waiwhakaiho River sites indicated communities in 'poor' health at the two upper sites and 'very poor' health at the lower site. This site had a significantly lower score than the two upper sites, but all three sites had scores similar to the preceding result and the historical medians. The SQMCI scores for the Mangaone Stream sites indicated communities in 'fair' health for the uppermost sites, 'poor' health at site 16, and 'very poor' health at sites 14, 15 and 11. The results were again congruent with the MCI scores indicating water quality had significant decreased between site 16 and 14.

Overall, the results indicated that discharges from the industrial area were not having a significant negative effect on the macroinvertebrate communities in the lower Waiwhakaiho River. However, the taxa richness and MCI scores indicate that a pollution event had likely occurred upstream of the industrial area prior to this survey. The Mangaone Stream had a significant decline in macroinvertebrate indices between sites 16 and 14, which may due in part to chronic pollution from historic sites but the results suggest that a more recent discharge lowering water quality has also occurred.

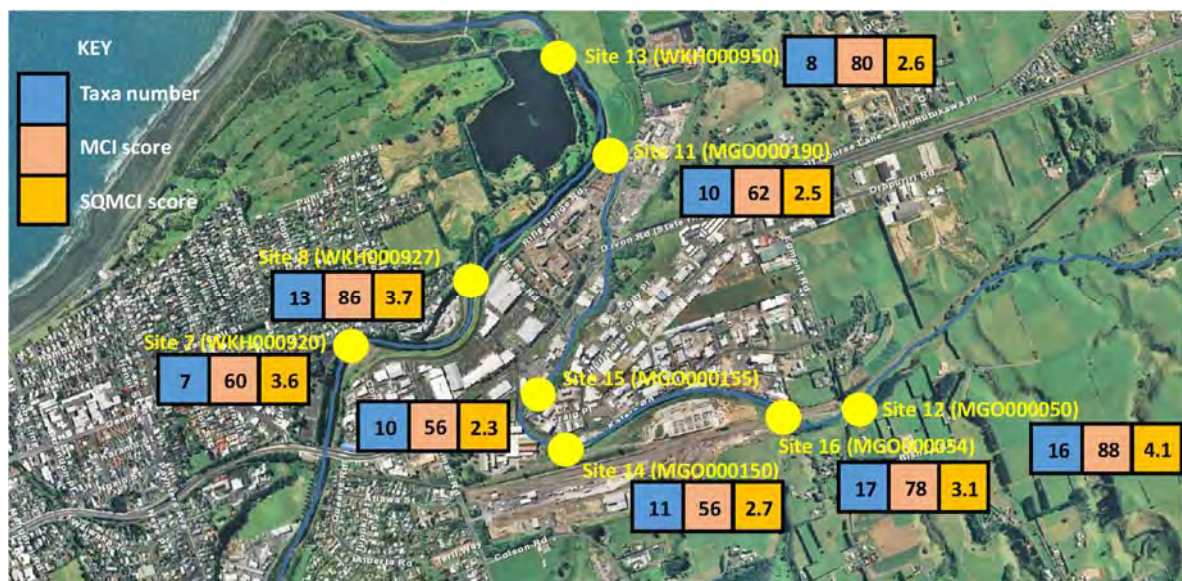


Figure 22 Biomonitoring sites in the Waiwhakaiho River Catchment with taxa number, MCI scores and SQMCI scores for each site (8 February 2019).

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

## 18 Recommendations

### 18.1 Recommendations from the 2017-2018 report

In the 2017-2018 Annual Report, it was recommended:

1. THAT monitoring programmed for consented water discharges in the Lower Waiwhakaiho catchment in the 2017-2018 year continues at the same level as programmed for 2018-2019.

This recommendation was implemented.

#### 18.1.1 Alterations to monitoring programmes for 2019-2020

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 programmed for all consented discharges in the lower Waiwhakaiho catchment in the 2019-2020 year continues at a similar level to that programmed for 2018-2019. It is also proposed that the monitoring of IBR Holdings be discontinued as the resource consent has been surrendered.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site(s) 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 2019-2020.

#### 18.1.2 Exercise of optional review of consent

Table 72 sets out the resource consents with an option to review the consent in June 2020. Conditions in the consents allows the Council to review a consent, for the purpose of ensuring that current consent conditions are adequate for deal with effects arising from the exercise of the consent(s).

Table 72 Consents with option to review in June 2020

Consent Holder	Consent Number	Next Review Date
AML Limited (Trading as Allied Concrete)	4539-2	June 2020
Devon 662 Limited Partnership (old Ravensdown site)	3865-4.0	June 2020
Downer EDI Works Limited	3917-3.0	June 2020
Envirowaste Services Limited	10109-1.0	June 2020

Consent Holder	Consent Number	Next Review Date
Firth Industries Limited	0392-4	June 2020
Fitzroy Engineering Group Limited	0021-4	June 2020
Fitzroy Engineering Group Limited	9853-2	June 2020
Freight & Bulk Transport Limited	10008-1	June 2020
KiwiRail Holdings Limited	3528-3	June 2020
New Plymouth District Council	5163-2	June 2020
New Plymouth District Council	1275-3	June 2020
New Plymouth District Council	4984-2	June 2020
New Zealand Railways Corporation	1735-3	June 2020
Ravensdown Limited	10513-1	June 2020
Technix Group Limited	9981-1	June 2020
Technix Group Limited	9982-1	June 2020
Technix Group Limited	0291-3	June 2020
Waste Management NZ Limited	10430-1.0	June 2020

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 as the current conditions are adequate to deal with any effects arising from the exercise of each consent.

A recommendation to this effect is attached to this report.

### 18.1.3 Recommendations

1. THAT in monitoring of consented activities at AML Limited in the 2019-2020 year continue at the same level as in 2018-2019.
2. THAT monitoring of consented activities at Downer EDI Works Ltd in the 2019-2020 year remain similar to that in 2018-2019.
3. THAT in the first instance, monitoring of discharges from Firth Industries Ltd (Division of Fletcher Concrete and Infrastructure Ltd) in the 2019-2020 remain similar to that programmed in 2018-2019.
4. THAT monitoring of discharges from Fitzroy Engineering Group Ltd in the 2019-2020 year continue at the same level as in 2018-2019.
5. THAT the programme for monitoring IBR Holdings Ltd be dis-established.

6. THAT monitoring of discharges from Nankervis Family Trust in the 2019-2020 period continue at a similar level as that undertaken in the 2018-2019 period.
7. THAT monitoring of discharges covered by consents held by New Plymouth District Council in the 2019-2020 period continues at similar a level to that undertaken in the 2018-2019 period.
8. THAT monitoring of discharges from New Zealand Railways Corporation Ltd and KiwiRail Holding Ltd in the 2019-2020 period remain similar to that programmed in the 2018-2019 period.
9. THAT monitoring of discharges from Ravensdown Fertiliser Co-operative Ltd in the 2019-2020 period continue at a similar level as that undertaken in the 2018-2019 period.
10. THAT for 2019-2020, the programme for Ravensdown Co-operative Ltd new site remains similar to that programmed for the 2018-2019 period.
11. THAT monitoring programme for discharges from Taranaki Sawmills Ltd in the 2019-2020 period continue at a similar level as that undertaken in the 2018-2019 period.
12. THAT monitoring of discharges from Technix Group Ltd in the 2019-2020 period continue at a similar level as that undertaken in the 2018-2019 period.
13. THAT monitoring of discharges from Waste Management NZ Ltd's remains similar to that programmed for the 2018-2019 period.
14. THAT should there be issues with environmental or administrative performance with any of the consent holders in 2019-2020, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.
15. THAT the option for a review of resource consents 0392-4 ,0021-4, 9853-2, 10008-1, 3528-3, 5163-2, 1275-3, 4984-2 ,1735-3, 10513-1, 9981-1, 9982-1, 0291-3, and 10430-1 in June 2020, as set out in the conditions of the consents not be exercised, on the grounds that the current conditions are adequate to deal with any effects arising from the exercise of each consent.

## Glossary of common terms and abbreviations

The following abbreviations and terms are used within this report:

Al*	Aluminium.
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.
BODCF	Filtered carbonaceous biochemical oxygen demand. A measure of the presence of degradable organic matter in the filtered sample, excluding the biological conversion of ammonia to nitrate.
CCA	Copper-chromium-arsenic preparation used for treating timber.
cfu	Colony forming units. A measure of the concentration of bacteria usually expressed as per 100 millilitre sample.
COD	Chemical oxygen demand. A measure of the oxygen required to oxidise all matter in a sample by chemical reaction.
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in mS/m.
Cu*	Copper.
DO	Dissolved oxygen.
DRP	Dissolved reactive phosphorus.
<i>E.coli</i>	<i>Escherichia coli</i> , an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample.
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).
Ent	Enterococci, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre of sample.
F	Fluoride.
FC	Faecal coliforms, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample.
Fresh	Elevated flow in a stream, such as after heavy rainfall.

g/m <sup>3</sup>	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.
IBC	Intermediate bulk container, a square 1000L plastic tank, generally encased in a steel cage.
IPBC	Iodopropynyl Butyl Carbamate– carbamate based fungicide used for treating timber.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Incident Register	Incident Register entry- an event recorded by the Council on the basis that it had potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
L/s	Litres per second.
LOSP	Light organic solvent preservative- a class of wood treatment compounds that include PRCA, TEBA and IPBC.
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.
mS/m	Millisiemens per metre.
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.
NH <sub>4</sub>	Ammonium, normally expressed in terms of the mass of nitrogen (N).
NH <sub>3</sub>	Unionised ammonia, normally expressed in terms of the mass of nitrogen (N).
NO <sub>3</sub>	Nitrate, normally expressed in terms of the mass of nitrogen (N).
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
NZEPA	New Zealand Environmental Protection Agency.
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.
PM <sub>10</sub>	Relatively fine airborne particles (less than 10 micrometre diameter).
PRCA	Propiconazole- A triazole fungicide used to treat timber.
NOEC	No Observed Effect Concentration- is the highest concentration of a given contaminant that does not cause a statistically different effect than the negative control through statistical hypothesis.
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	Resource Management Act 1991 and including all subsequent amendments.
RFWQP	Regional Freshwater Quality Plan.
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).
TPH	Total petroleum hydrocarbons.
Turb	Turbidity, expressed in NTU.
USEPA	United States Environmental Protection Agency.
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 a Science Services Manager.

## Bibliography and references

- Taranaki Regional Council (2018): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2017-2018*. Technical Report 18-9.
- Clemens, DL, (2019): *Biomonitoring of the lower Waiwhakaiho River and the Mangaone Stream in the Fitzroy Industrial Area, February 2019*. TRC report KB077.
- Sutherland, DL, (2018): *Biomonitoring of the lower Waiwhakaiho River and the Mangaone Stream in the Fitzroy Industrial Area, November 2018*. TRC report D113.
- Cawthron Institute (2013): *Report 2357 Ecotoxicity review of 26 pesticides*.
- European Chemical Agency Risk Assessment Committee (2013): *Annex 1 Background document to the Opinion proposing harmonised classification and labelling at Community level of Tebuconazole*.
- Ministry for the Environment (2018): *Best Practice Guidelines for Compliance, Monitoring and Enforcement under the Resource Management Act 1991*. Wellington: Ministry for the Environment.
- Taranaki Regional Council (2019): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2017-2018*. Technical Report 18-09.
- Taranaki Regional Council (2017): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2016-2017*. Technical Report 16-07.
- Taranaki Regional Council (2017): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2015-2016*. Technical Report 16-98.
- Taranaki Regional Council (2016): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2014-2015*. Technical Report 15-114.
- Taranaki Regional Council (2015): *Lower Waiwhakaiho Catchment Monitoring Programme Biennial Report 2012-2014*. Technical Report 14-123.
- Taranaki Regional Council (2013): *Lower Waiwhakaiho Catchment Monitoring Programme Biennial Report 2010-2012*. Technical Report 12-99.
- Taranaki Regional Council (2011): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2009-2010*. Technical Report 10-107.
- Taranaki Regional Council (2010): *Lower Waiwhakaiho Catchment Monitoring Programme Biennial Report 2008-2009*. Technical Report 09-101.
- Taranaki Regional Council (2008): *Lower Waiwhakaiho Catchment Monitoring Programme Biennial Report 2006-2008*. Technical Report 08-32.
- Taranaki Regional Council (2007): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2005-2006*. Technical Report 06-116.
- Taranaki Regional Council (2006): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2004-2005*. Technical Report 05-88.



- Taranaki Regional Council (2004): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2003-2004*. Technical Report 04-77.
- Taranaki Regional Council (2003): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2002-2003*. Technical Report 03-71.
- Taranaki Regional Council (2002): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2001-2002*. Technical Report 02-55.
- Taranaki Regional Council (2001): *Lower Waiwhakaiho Catchment Monitoring Programme Annual Report 2000-2001*. Technical Report 01-63.
- Taranaki Regional Council (2000): *Lower Waiwhakaiho and Mangaone Monitoring Programme Annual Report 1999-2000*. Technical Report 00-59.
- Taranaki Regional Council (1999): *Lower Waiwhakaiho and Mangaone Monitoring Programme Annual Report 1997-99*. Technical Report 99-68.
- Taranaki Regional Council (1997): *Lower Waiwhakaiho and Mangaone Monitoring Programme Annual Report 1996-97*. Technical Report 97-95.
- Taranaki Regional Council (1996): *Lower Waiwhakaiho and Mangaone Monitoring Programme Annual Report 1995-96*. Technical Report 96-52.
- Taranaki Regional Council (1995b): *Lower Waiwhakaiho and Mangaone Monitoring Programme Annual Report 1994-95*. Technical Report 95-5.
- Taranaki Regional Council (1995a): *Freshwater Macroinvertebrate Community Data-A review of the results of over 600 biomonitoring surveys undertaken between 1980 and 1995*.
- Taranaki Regional Council (1994): *Lower Waiwhakaiho and Mangaone Monitoring Programme Annual Report 1993-94*. Technical Report 94-15.
- Taranaki Regional Council (1993): *Lower Waiwhakaiho and Mangaone Monitoring Programme Annual Report 1992-93*. Technical Report 93-14.
- Taranaki Regional Council (1992): *Joint Lower Waiwhakaiho Monitoring Programme Annual Report 1991/92*. Technical Report 92-36.
- Taranaki Regional Council (1991): *Lower Waiwhakaiho Monitoring Programme Report for 1990-91*. Technical Report 91-18.
- Taranaki Regional Council (1990): *Waiwhakaiho River Catchment: Draft Water Management Plan*. August 1990.
- Taranaki Regional Council (1990): *Lower Waiwhakaiho Monitoring Programme Report for 1988-90*. Technical Report 90-34.
- Taranaki Regional Council Document #3413412 *Correspondence from BTW "Re: Taranaki Sawmills Ltd Stormwater discharge Katere Road Consent 3491-2"*.

World Health Organization (2009). Potassium in Drinking-water Background document for development of WHO *Guidelines for Drinking-water Quality*.

## Appendix I

# Resource consents to discharge into the lower Waiwhakaiho River and Mangaone Stream catchments in alphabetical order

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

Consent holder	Consent No	Description	Number of conditions	Expiry date	Next review
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	01 Jun 2026	June 2020
Downer EDI Works Ltd	3917-3.0	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	01 Jun 2032	June 2020
Envirowaste Services Ltd	10109-1.0	To discharge stormwater from an industrial site into the Puremu Stream and an unnamed tributary of the Mangaone Stream	9	01 Jun 2032	June 2020
Firth Industries Ltd	0392-4.0	To discharge stormwater and treated wastewater into the Waiwhakaiho River	10	01 Jun 2032	June 2020
Fitzroy Engineering Group Ltd	0021-4.0	To discharge stormwater from an industrial site into the Waiwhakaiho River	10	01 Jun 2032	June 2020
	9853-2.0	To discharge stormwater from an industrial site into the Waiwhakaiho River	10	01 Jun 2032	June 2020
Freight & Bulk Transport Ltd	10008-1.0	To discharge stormwater onto and into land and into the Mangaone Stream	9	01 Jun 2032	June 2020
IBR Holdings Ltd	4548-2	To discharge minor volumes of treated industrial wastewater and up to 128 litres/second of treated stormwater from a former stockfeed milling plant into an unnamed tributary of the Mangaone Stream in the Waiwhakaiho catchment	12	01 Jun 2020	-
KiwiRail Holdings Ltd	3528-3.0	To discharge stormwater into the Waiwhakaiho River	8	01 Jun 2026	June 2020
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	01 Jun 2026	June 2020
Nankervis Family Trust	6965-1	To discharge truck wash water via an interceptor system into the Mangaone Stream in the Waiwhakaiho catchment	10	01 Jun 2020	-

Consent holder	Consent No	Description	Number of conditions	Expiry date	Next review
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 confluence with the Waiwhakaiho River	4	01 Jun 2026	June 2020
New Plymouth District Council	4984-2.0	To discharge leachate from a former landfill site into groundwater, adjacent to the Waiwhakaiho River	4	01 Jun 2032	June 2020
New Plymouth District Council	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	01 Jun 2026	June 2020
Ravensdown Ltd	10513-1.0	To discharge stormwater from a fertiliser storage site onto and into land and into the Mangaone Stream	8	01 Jun 2032	June 2020
Ravensdown Ltd (old site)	3865-4.0	To discharge stormwater from a fertiliser storage depot onto and into land and into the Mangaone Stream and into the Waiwhakaiho River	10	01 Jun 2026	June 2019-2025
Taranaki Sawmills Ltd	3491-2	To discharge cooling water and wastewater from a timber drying plant and stormwater from a timber treatment site into the Mangaone Stream in the Waiwhakaiho catchment	17	01 Jun 2020	
Technix Group Ltd	0291-3.0	To discharge stormwater from an industrial site into the Waiwhakaiho River	9	01 Jun 2032	June 2020
	9981-1.0	To discharge stormwater from an industrial site into the Waiwhakaiho River	8	01 Jun 2032	June 2020
	9982-1.0	To discharge stormwater from an industrial site into the Mangaone Stream	8	01 Jun 2032	June 2020
Waste Management NZ Ltd	10430-1.0	To discharge stormwater from a waste depot into an unnamed tributary of the Mangaone Stream	9	01 Jun 2032	June 2018

### 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            30 July 2008  
Date:

**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 m<sup>2</sup>.
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:

<b>Component</b>	<b>Concentration</b>
suspended solids	100 g/m <sup>3</sup>
oil and grease	15 g/m <sup>3</sup>

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.



## Consent 4539-2

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](mailto: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: 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.

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

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.

## Consent 3917-3.0

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](mailto: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 <sup>-3</sup>
oil and grease	Concentration not greater than 15 gm <sup>-3</sup>

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.



## Consent 10109-1.0

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](mailto: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**

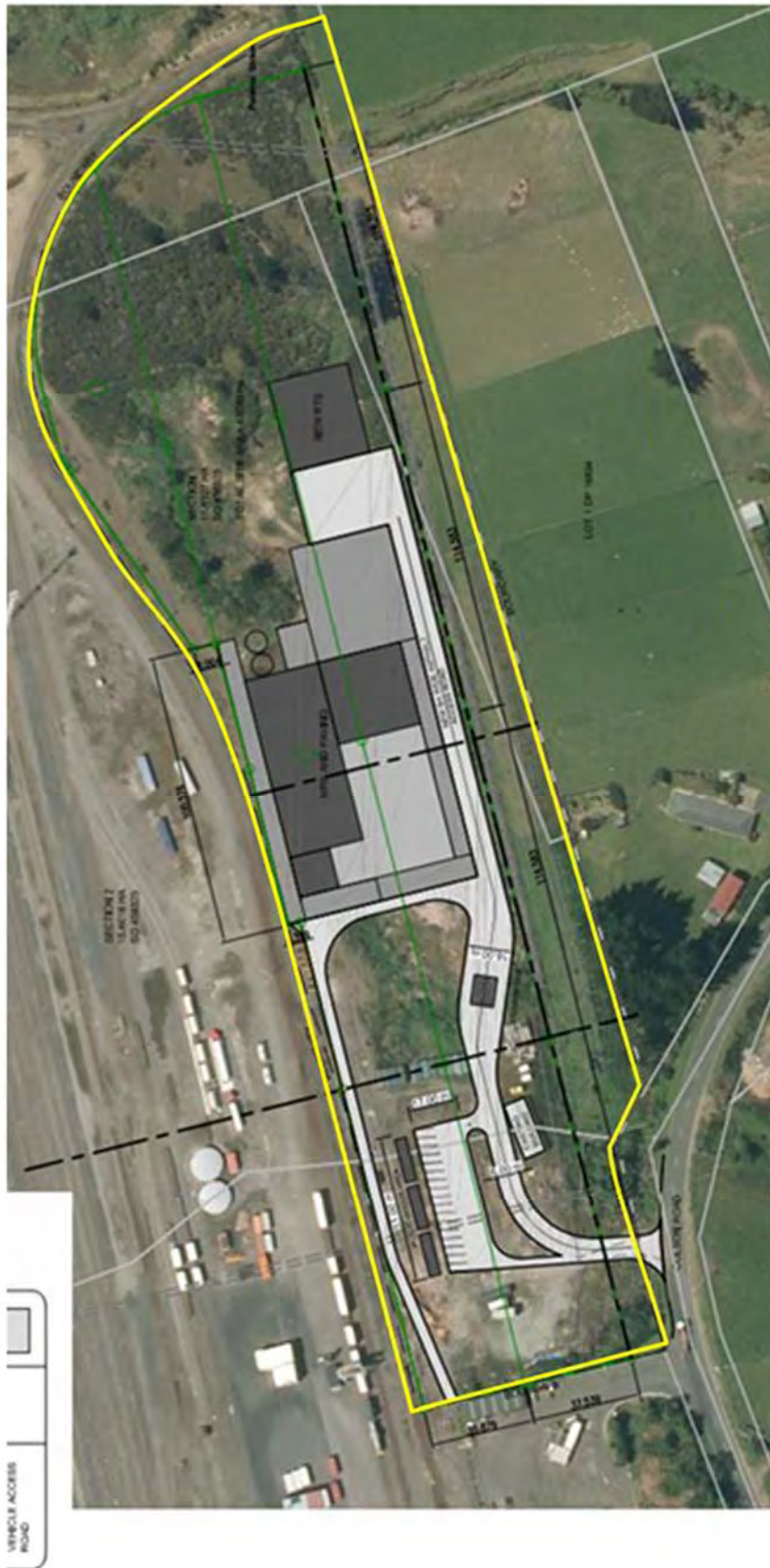


Figure 1 - Stormwater catchment area permitted by this consent (in yellow)

**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.

<b>Constituent</b>	<b>Standard</b>
suspended solids	Concentration not greater than 100 gm <sup>-3</sup>
oil and grease	Concentration not greater than 15 gm <sup>-3</sup>

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 3<sup>rd</sup> and 4<sup>th</sup> 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](mailto: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: Fitzroy Engineering Group 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](mailto:worknotification@trc.govt.nz).
5. Constituents of the discharge shall meet the standards shown in the following table.

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

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 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.



## Consent 0021-4.0

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](mailto: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.

Signed at Stratford on 12 March 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: Fitzroy Engineering Group 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: 01 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](mailto:worknotification@trc.govt.nz).
5. Constituents of the discharge shall meet the standards shown in the following table.

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

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 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.

## Consent 9853-2.0

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](mailto: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.

Signed at Stratford on 12 March 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: Freight & Bulk Transport Limited  
PO Box 472  
New Plymouth 4340

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 2020, June 2026 and in accordance with special  
condition 9

Site Location: 69 Katere Road, New Plymouth

Legal Description: Lot 1 DP 13577 Lot 2 DP 17884 & Sec 184 Hua Dist Blk VI  
& Paritutu SD & Lot 2 DP 9418 Pt Lot 1 DP 9418  
(Discharge source & site)

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 <sup>-3</sup>
oil and grease	Concentration not greater than 15 gm <sup>-3</sup>
carbonaceous biochemical oxygen demand	Concentration not greater than 15 gm <sup>-3</sup>

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/m<sup>3</sup>-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.



## Consent 10008-1.0

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](http://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](mailto: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.

Signed at Stratford on 5 June 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: IBR Holdings Limited  
34 Clemow Road  
New Plymouth 4312

Decision Date: 11 January 2002

Commencement Date: 11 January 2002

**Conditions of Consent**

Consent Granted: To discharge minor volumes of treated industrial wastewater and up to 128 litres/second of treated stormwater from a stockfeed milling plant into an unnamed tributary of the Mangaone Stream in the Waiwhakaiho catchment

Expiry Date: 1 June 2020

Site Location: 99 Katere Road, New Plymouth

Grid Reference (NZTM) 1697412E-5677349N

Catchment: Waiwhakaiho

Tributary: Mangaone

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

### General conditions

- a) That 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) That 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) That 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. This consent shall be exercised generally in accordance with the information submitted in support of application 1669 and to ensure the conditions of this consent are maintained.
2. The consent holder shall advise the Chief Executive, Taranaki Regional Council, prior to making any change in the processes undertaken at the site, or the materials used on site, which could alter the quantity or nature of the discharge.
3. The stormwater treatment system shall be maintained to the satisfaction of the Chief Executive, Taranaki Regional Council.
4. The following concentrations shall not be exceeded within the discharge effluent:

<b>Component</b>	<b>Concentration</b>
pH (range)	6.0-9.0
suspended solids	100 gm <sup>-3</sup>
oil and grease	15 gm <sup>-3</sup>
biochemical oxygen demand	25 gm <sup>-3</sup>

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

5. The discharge shall not give rise to any 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.
6. The discharge shall not cause the concentration of filtered carbonaceous biochemical oxygen demand to exceed 2.00 gm<sup>-3</sup> in the Mangaone Stream.

## Consent 4548-2

7. The discharge shall not cause the concentration of unionised ammonia to exceed 0.025 gm<sup>-3</sup> in the Mangaone Stream.
8. The consent holder shall prepare and maintain a contingency plan to the satisfaction of the Chief Executive, Taranaki Regional Council, outlining measures and procedures undertaken to prevent spillage or accidental discharge of contaminants, and procedures to be carried out should such a spillage or discharge occur.
9. That within three months of the granting of this consent, the consent holder shall prepare and maintain an operation and management plan to the satisfaction of the Chief Executive, Taranaki Regional Council including but not limited to:
  - a) The loading and unloading of materials;
  - b) maintenance of conveyance systems;
  - c) general housekeeping;
  - d) management of the interceptor system.
10. The consent will be exercised in accordance with the procedures set out in the operation and management plan, and the consent holder shall subsequently adhere to and comply with the procedures, requirements, obligations and all other matters specified in the operation and management plan, except by specific agreement of the Chief Executive, Taranaki Regional Council. In the case of contradiction between the operation and management plan and the conditions of this resource consent, the conditions of the resource consent shall prevail.
11. The consent holder shall advise the Taranaki Regional Council one month prior to any changes being made to the operation and management plan. Should the Taranaki Regional Council wish to review the operation and management plan, one month's notice shall be provided to the consent holder.
12. 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 2003 and/or June 2005 and/or June 2008 and/or June 2014, 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 21 August 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:                      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 <sup>-3</sup>
Oil and grease	Concentration not greater than 15 gm <sup>-3</sup>
Ammoniacal nitrogen	Concentration not greater than 3 gm <sup>-3</sup>
Dissolved reactive phosphate	Concentration not greater than 1 gm <sup>-3</sup>

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.



## Consent 3528-3.0

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](http://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](mailto: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 <sup>-3</sup>
Oil and Grease	Concentration not greater than 15 gm <sup>-3</sup>

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: Nankervis Family Trust  
165 Lower Flag Range Road  
R D 9  
HASTINGS 4179

Consent Granted  
Date: 20 October 2006

**Conditions of Consent**

Consent Granted: To discharge truck washwater via an interceptor system  
into the Mangaone Stream in the Waiwhakaiho catchment  
at or about GR: P19:073-394

Expiry Date: 1 June 2020

Review Date(s): June 2008, June 2014

Site Location: 1 Dean Place, New Plymouth

Legal Description: Lot 2 DP 350826

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. The consent holder shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to avoid or minimise the discharge of silt or other contaminants into water or onto the riverbed and to avoid or minimise the disturbance of the riverbed and any adverse effects on water quality.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 4368. In the case of any contradiction between the documentation submitted in support of application 4368 and the conditions of this consent, the conditions of this consent shall prevail.
3. Prior to the exercise of this consent, the consent holder shall provide for the written approval of the Chief Executive, Taranaki Regional Council, a management plan relating to contingency planning and management of stormwater and washwater for the site.
4. After reasonable mixing, the contaminant whether by itself or in combination with other contaminants, shall not cause any of the following effects:
  - a) the production of 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 emissions of objectionable odour;
  - d) the rendering of fresh water unsuitable for consumption by farm animals; and
  - e) any significant adverse effects on aquatic life.
5. There shall be no direct discharge of untreated washwater into the Mangaone Stream, as a result of the exercise of this consent.



## Consent 6965-1

6. The following concentrations shall not be exceeded in the discharge:

<b>Component</b>	<b>Concentration</b>
pH [range]	6-9
Suspended solids	100 gm <sup>-3</sup>
Oil and Grease	15 gm <sup>-3</sup>

This condition shall apply prior to the entry of the washwater discharge into the Mangaone Stream at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

7. The consent holder shall not discharge any product used to degrease plant or equipment or discharge any detergent used for truck washing in terms of this consent. The consent holder shall not discharge any water containing concrete, cement or water used to remove concrete and/or cement products from either trucks or equipment.
8. The consent holder shall ensure that no adverse effects shall occur to surface water or groundwater as a result of the exercise of this consent.
9. This consent shall lapse on the expiry of five years after the date of issue of this consent, 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.
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 during the month of June 2008 and/or June 2014 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 October 2006

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.

<b>Constituent</b>	<b>Standard</b>
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/ m<sup>3</sup> -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           10 June 2008  
Date:

**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 1049  
Christchurch 8140

Decision Date: 2 February 2018

Commencement Date: 2 February 2018

**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 2020, June 2026 and in accordance with special  
condition 8

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.

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

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;
  - f) a rise in dissolved carbonaceous biochemical oxygen of greater than 2.0 g/m<sup>3</sup>; and
  - g) un-ionised ammonia exceeding 0.025 g/m<sup>3</sup>.
5. 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.

## Consent 10513-1.0

6. 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](http://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, 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](mailto: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;
  - b) within 3 months of receiving a notification under special condition 7 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 2 February 2018

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: Ravensdown Limited  
PO Box 1049  
Christchurch 8140

Decision Date: 3 May 2017

Commencement Date: 3 May 2017

**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): Annually during the month of June until 2025 and in accordance with special condition 10

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.

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

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

4. 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/m<sup>3</sup>.
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 and any amended versions shall be provided to the Chief Executive of the Taranaki Regional Council.

## Consent 3865-4.0

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:
- the loading and unloading of materials;
  - general housekeeping; and
  - 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](http://www.trc.govt.nz).*

7. 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

8. 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

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, 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](mailto:consents@trc.govt.nz).

## Consent 3865-4.0

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) annually during the month of June until 2025;
  - 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 3 May 2017

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: Taranaki Sawmills Limited  
P O Box 7145  
Fitzroy  
NEW PLYMOUTH

Consent Granted  
Date: 17 October 2006

**Conditions of Consent**

Consent Granted: To discharge cooling water and wastewater from a timber drying plant and stormwater from a timber treatment site into the Mangaone Stream in the Waiwhakaiho catchment at or about GR: P19:069-388

Expiry Date: 1 June 2020

Review Date(s): June 2008, June 2009, June 2010, June 2014

Site Location: 45 & 53 Katere Road, Fitzroy, New Plymouth

Legal Description: Lot 1 DP 20347 Lot 2 DP 12871 Sec 177 Hua Dist Blk VI Paritutu SD

Catchment: Waiwhakaiho

Tributary: Mangaone

## Consent 3491-2

### 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 exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 4046. In the case of any contradiction between the documentation submitted in support of application 4046 and the conditions of this consent, the conditions of this consent shall prevail.
3. The consent holder shall adhere to the New Zealand Timber Preservation Council "Best Practice Guideline for the Safe Use of Timber Preservatives and Antisapstain Chemicals" September 2005 in so far as these guidelines address any matter relevant to the activity authorised by this consent. Where there is a conflict between the requirements of this guideline and the conditions of this consent, then the conditions of this consent shall prevail.
4. From the 31 March 2007 the consent holder shall ensure that all bunding (secondary containment) and any internal bunding, including but not limited to the internal LOSP bunding, meet the requirements of regulations 35 to 41 of the Hazardous Substances (Emergency Management) Regulations 2001 as amended by the Hazardous Substances (Classes 1 to 5 Controls) Amendment Regulations 2004 .
5. The maximum stormwater catchment area shall be no more than 5.3188 ha.
6. The wastewater/cooling water discharge shall be no more than 12 cubic metres per day.



## Consent 3491-2

7. The following concentrations shall not be exceeded in the discharge:

<b>Component</b>	<b>Concentration</b>
oil and grease	15 g/m <sup>3</sup>
suspended solids	100 g/m <sup>3</sup>
Arsenic	0.24 g/m <sup>3</sup>
Boron	3.7 g/m <sup>3</sup>
Copper (dissolved)	0.088 g/m <sup>3</sup>
Chromium	0.4 g/m <sup>3</sup>
Tributyltin	0.0046 g/m <sup>3</sup>
Zinc (dissolved)	0.64 g/m <sup>3</sup>

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

8. 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:
- the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
  - any conspicuous change in the colour or visual clarity;
  - any emission of objectionable odour;
  - the rendering of fresh water unsuitable for consumption by farm animals;
  - any significant adverse effects on aquatic life.
9. 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 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.
10. 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:
- an increase in temperature of more than 3 degrees Celsius;
  - the natural temperature of the water to exceed 25 degrees Celsius;
  - a filtered carbonaceous 5 day biochemical oxygen demand of more than 2 g/m<sup>3</sup>.
11. The consent holder shall investigate the permethrin, iodocarb, propiconazole and tebuconazole levels in site discharge, receiving water and Mangaone Stream sediment and to satisfaction of Chief Executive, Taranaki Regional Council

## Consent 3491-2

12. The consent holder shall investigate to satisfaction of Chief Executive, Taranaki Regional Council:
  - (a) The assimilative capacity of the Mangaone Stream under wet weather conditions, in relation to the dissolved copper concentration of the site discharge, the Mangaone Stream and the critical maximum concentration as per the United States Environmental Protection Agency National Recommended Water Quality Criteria 2006.
  - (b) What, if any remedial action is required at the site to ensure that the discharge from the site does not result in the water quality criteria, described in 12(a), from being exceeded.
13. The consent holder shall report on the investigations required by conditions 11 and 12 to the satisfaction of the Chief Executive, Taranaki Regional Council by 30 August 2007.
14. The consent holder shall provide and maintain a contingency plan, to the satisfaction of the Chief Executive, Taranaki Regional Council, for action to be taken in the event of accidental discharge or spillage of contaminants.
15. This consent shall lapse on the expiry of five years after the date of issue of this consent, 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.
16. 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 2008, and/or June 2009, and/or June 2010, and/or June 2014, 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.
17. Conditions 3 and 4 of this resource consent may be reviewed at any time, consequent to any amendment or revision of the New Zealand Timber Preservation Council "Best Practice Guideline for the Safe Use of Timber Preservatives and Antisapstain Chemicals" September 2005, or regulations 35 to 41 of the Hazardous Substances (Emergency Management) Regulations 2001 as amended in the Hazardous Substances (Classes 1 to 5 Controls) Amendment Regulations 2004

Signed at Stratford on 17 October 2006

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: 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.

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

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.

## Consent 0291-3.0

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](mailto: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  
Waiwhakaiho River

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) 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 <sup>-3</sup>
oil and grease	Concentration not greater than 15 gm <sup>-3</sup>
chloride	Concentration not greater than 50 gm <sup>-3</sup>

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.



## Consent 9981-1.0

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](mailto: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: 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.

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

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.

## Consent 9982-1.0

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](mailto: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: 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.

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

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<sup>-3</sup>; 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.



## Consent 10430-1.0

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](http://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](mailto: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

