Concrete Batching Plants

Monitoring Programme
Annual Report
2023/24
Technical Report 2024-71

Taranaki
Regional Council

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Executive summary

This report for the period July 2023 to June 2024 describes the monitoring programme implemented by Taranaki Regional Council (the Council) to assess the environmental performance and consent compliance of two concrete batching plants within the Taranaki Region. The report also details the results of the monitoring undertaken and assesses the environmental effects of their activities. The two concrete batching plants covered by this programme are located in Hawera and Stratford.

The Council's monitoring programme for both the Hawera and Stratford plants included two inspections, and provision for sampling of the discharges and of the receiving waters in the vicinity of each site.

Firth Industries operate a concrete batching plant located on Glover Road, Hawera in the Tangahoe catchment. The site operation involves mixing of cement, aggregate, water and additives in concrete mixing trucks for delivery to end users. Recently it has been used only as a satellite plant. The site is also used for the storage of aggregate, sand and builders mix for retail sale.

Firth Industries holds one resource consent, which includes a total of seven conditions setting out the requirements that the consent holder must satisfy. The consent allows for the discharge of treated wastewater onto and into land and into an unnamed tributary of the Tawhiti Stream.

During the monitoring period, Firth Industries demonstrated a high level of environmental performance and high level of administrative performance.

Fletcher Concrete and Infrastructure Ltd (Fletcher Concrete)'s subsidiary Firth Industries operates a concrete batching plant on a site just north of Stratford on State Highway 3 in the Kahouri catchment. Activities at the site include the storage and mixing of aggregate, cement, water and additives.

Fletcher Concrete holds one resource consent, which includes a total of 13 conditions setting out the requirements that the consent holder must satisfy. The consent allows for the discharge of stormwater and wastewater onto and into land and into an unnamed tributary of the Kahouri Stream.

During the monitoring period, Fletcher Concrete and Infrastructure Ltd (Fletcher Concrete) demonstrated a good level of environmental performance and high level of administrative performance.

There was a breach of consent conditions identified from sampling undertaken one day following moderate rainfall. Levels of total suspended solids in the discharge waters exceeded that which is allowed for in condition 7. Due to the low volume of the discharge, no impact on the receiving waters was observed. Upon contact, the consent holder was quick to respond and completed an investigation into potential sources of the excess sediment. A deep clean of the yard settling pond was completed and further in-house testing by the consent holder for suspended solids returned results below their consented limits. No further enforcement action was taken.

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor.

This report includes recommendations for the 2023/24 year.

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1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2023 to June 2024 by Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by two concrete batching plants in the Taranaki Region, Firth Industries on Glover Road in Hawera, and Fletcher Concrete and Infrastructure Ltd (Fletcher Concrete) on Mountain Road in Stratford.

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by Firth Industries, and Fletcher Concrete that relate to discharges of stormwater and/or wastewater onto and into land and/or into water within the Tangahoe, and Patea catchments respectively. This is the 17th annual report to be prepared by the Council to cover the water discharges and their effects.

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 *Resource Management Act 1991* (RMA) and the Council's obligations;
- the Council's approach to monitoring sites though annual programmes;
- the resource consents held by Firth Industries, and Fletcher Concrete in the Tangahoe and Patea catchments; and
- the nature of the monitoring programme in place for the period under review.

Each consent holder is covered in a separate section of the report (**Section 2 and 3**). The subsections within each section of the report cover the following content:

Subsection 1 provides a description of the activities and operations conducted in the consent holders' site/catchment.

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

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

Subsection 4 presents recommendations to be implemented in the 2022/23 monitoring year.

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

1.1.3 The Resource Management Act 1991 and monitoring

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

a. the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
b. physical effects on the locality, including landscape, amenity and visual effects;

c. ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
d. natural and physical resources having special significance (for example recreational, cultural, or aesthetic); and
e. risks to the neighbourhood or environment.

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

1.1.4 Evaluation of environmental performance

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

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor. [1]

1.2 Resource consents

1.2.1 Water discharge permit summary

Firth Industries and Fletcher Concrete hold water permits 1274-3 and 5026-2 respectively, the details of which are summarised in the table below. Summaries of the conditions attached to Firth Industries and Fletcher Concrete's permits are set out in Section 2.3.3 and 3.3.3 of this report.

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

[1] The Council has used these compliance grading criteria for more than 20 years. They align closely with the four compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

Table 1 Summary of the concrete batching plants' resource consents

Consent holder	Consent no.	Purpose	Review	Expiry
Firth Industries (Division of Fletcher Concrete and Infrastructure Ltd)	**1274-3**	To discharge treated wastewater from a concrete batching plant via settling ponds onto and into land and into an unnamed tributary of the Tawhiti Stream in the Tangahoe catchment	-	1 June 2028
Fletcher Concrete and Infrastructure Ltd	**5026-2**	To discharge stormwater and wastewater from a concrete product manufacturing and storage site onto and into land and into an unnamed tributary of the Kahouri Stream in the Patea catchment	-	1 June 2028

1.2.2 Air emission summary

The air emissions from each of the two sites have previously been assessed as a permitted activity as the activities at the sites comply with the requirements of Rule 13 of the *Regional Air Quality Plan for Taranaki* (RAQP).

Although not mandatory, Firth Industries and Fletcher Concrete had previously chosen to apply for certificates of compliance which confirm that, at the time the applications were considered, the emissions to air from the sites complied with the RAQP, and that no resource consents were required to cover emissions to air from the sites at that time.

1.3 Monitoring programme

1.3.1 Introduction

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

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

The monitoring programme for the Firth Industries and Fletcher Concrete sites consisted of three 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 the resource consent holder 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

The annual inspection schedule under this programme is for two site inspections per site. With regard to consents for the discharge to water, the main points of interest were plant processes with potential or actual

discharges to receiving watercourses, including contaminated stormwater and process wastewaters. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. 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.

1.3.4 Chemical sampling

During the year under review, if discharges were occurring from the site at the time of inspection, Council undertook sampling of the discharges from the site and downstream of the discharge point and mixing zone, as well as the water quality upstream of the discharge point where possible.

The number and type of samples collected at each of the sites during the year under review are shown in Table 2.

The samples were analysed primarily for contaminants typical of this type of industry, that is, pH, oil and grease, and suspended solids.

Table 2 Summary of the number and type of surface water samples collected.

Consent holder	Number of discharge samples	Number of receiving water samples
Firth Industries	1	1
Fletcher Concrete	1	2

1.3.5 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. This may include the provision of advice and information, the investigation of potential or actual causes of non-compliance and/or failure to maintain good practices. A pro-active approach that avoids issues occurring in the first instance 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).

Table 3 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 2023/24 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 3 Incidents, investigations, and interventions summary table

Date	Company	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
30/05/2024	Fletcher Industries (Stratford)	Sampling revealed an exceedance of suspended solids in the discharge limits specified in the Resource Consent	N	N	Investigation resulted in a deep-clean of the yard settling pond and further sampling carried out by the consent holder to monitor SS levels in the discharge.

Date	Company	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
30/05/2024	Fletcher Industries (Stratford)	Sampling revealed the pH in the discharge exceeded recommended levels.	Y	N	Downstream results were compliant. Consent holder notified.
06/06/2024	Firth (Hawera)	Sampling revealed the pH in the discharge exceeded recommended levels.	Y	N	Downstream results were compliant. Consent holder notified.

2. Firth Industries (Division of Fletcher Concrete and Infrastructure Ltd)

2.1 Process Description

Firth Industries operate a concrete batching plant at a site on Glover Road, Hawera in the Tangahoe catchment.

On-site operations primarily involve the mixing of aggregate, cement, water and additives in a concrete truck mixing bowl in order to produce concrete, which is then delivered to the end user. Builder's mix and aggregate are also retailed from the site.

A concreting operation was established on this site prior to 1967. Firth Industries have been operating at the site since the 1980's.

Wastewater on the site consists of stormwater from around the concrete batching plant and aggregate storage areas, as well as water from washing the concrete trucks. Therefore, the wastewater typically contains some cement deposits and other sediments. Wastewater is treated in a three pond settling system. A reticulation system was set-up in 2023 from the third pond, making recycled water available for use in truck washing and the concrete making process and reducing the need to discharge.

Sludge from the settling ponds is removed periodically and stored on site to dry. Excess concrete from the returning trucks is also off-loaded at the site, which is then made into large blocks and sold to farmers and local contractors.

Figure 1 Location of Firth Industries site, Glover Road, Hāwera

2.2 Results

2.2.1 Inspections

Routine inspections were undertaken on the 06 March 2024 and 06 June 2024. Inspections were undertaken in fine weather. Stormwater was being directed to the reticulation system and samples were taken of the discharge on one occasion. No dust tracking was visible off site.

2.2.2 Results of discharge and receiving environment monitoring

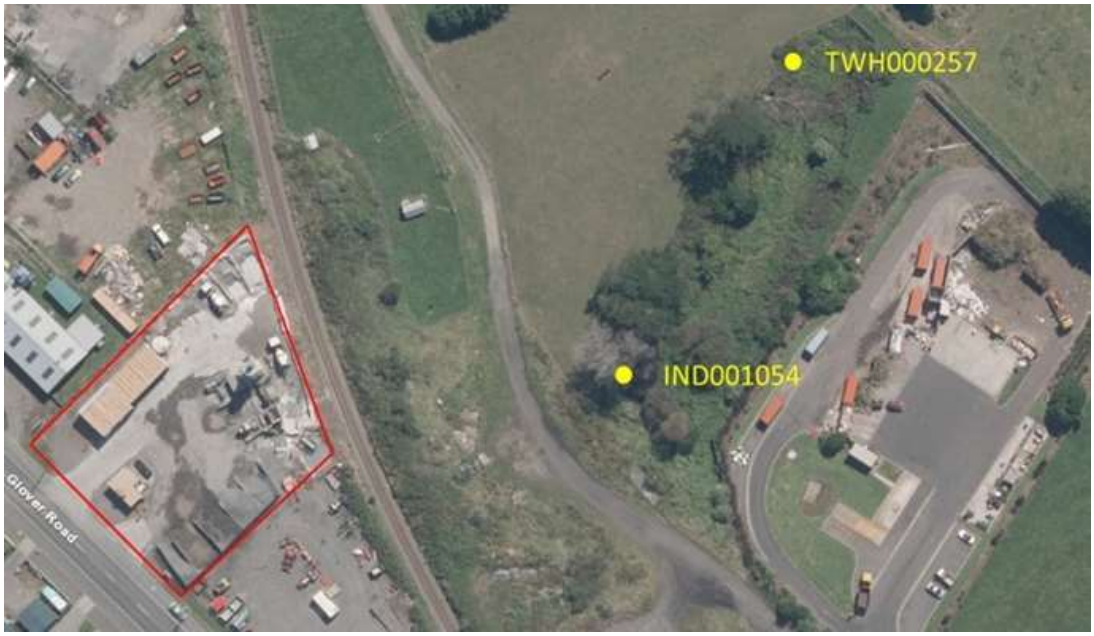

Figure 2 Location of Firth Industries provisional sampling sites, Hāwera

The monitoring sites associated with the Firth Concrete Hāwera depot are shown in Figure 2.

Discharge and receiving water samples were collected during the inspection on 06 June 2024. The results of this sampling are shown in Table 4.

Table 4 Monitoring results of Firth Industries receiving water sampling, 06 June 2024

Parameters	Unit	IND001054 discharge	TWH000257 75m downstream	Discharge consent limits
Temperature	Deg. C	12.5	11.8	-
Conductivity	mS/m	40.0	36.8	-
pH	-	9.3	8.0	-
Oil and Grease	g/m^3	<4	-	15
Suspended solids	g/m^3	7	8	200

2.3 Discussion

2.3.1 Discussion of site performance

All onsite activities during the monitoring year appears to comply with consent conditions. The site appears to be well managed and onsite improvements such as the installation of the reticulation system and the

minimisation of tracking at the entrance of the site will minimise the environmental impacts of the wastewater discharge.

2.3.2 Environmental effects of exercise of consents

A high pH of 9.3 was noted of the discharge during the 06 June 2024 inspection. High pH in waterways can have a negative impact on aquatic life. On-site staff were notified, and a check of the reticulation system was recommended. Subsequent effects on the receiving environment were minimal and samples taken downstream of the discharge point returned a pH within consented limits.

No complaints from the public were received regarding the effects of operations at the Firth Hāwera site.

2.3.3 Evaluation of performance

A summary of Firth Industries' compliance record for the year under review is set out in Table 5.

Table 5 Summary of performance for Firth Industries consent 1274-3

Purpose: To discharge treated wastewater from a concrete batching plant via settling ponds onto and into land and into an unnamed tributary of the Tawhiti Stream in the Tangahoe catchment		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Best practicable option	Inspections of the site and systems	Yes
2. Discharge volume limit	Inspections of the site	Yes
3. Washwater to be directed for treatment prior to discharge	Inspections of the site	Yes
4. Maintain silt and sediment system	Inspections of site and records	Yes
5. Concentration limits	No discharge at time of inspection	N/A
6. Mixing zone effects	Inspections of site and receiving water	Yes
7. Optional review of conditions	Not scheduled for consideration during year under review	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administrative performance in respect of this consent		**High**

N/A = not applicable

Table 6 Evaluation of environmental performance over time

Year	Consent numbers	High	Good	Improvement req	Poor
2019/20		1	-	-	-
2020/21		1	-	-	-
2021/22		-	1	-	-
2022/23		-	1	-	-
2023/24		1	-	-	-

During the 2023/24 monitoring year, Firth Industries demonstrated a high level of environmental performance. Their administrative performance was rated high. Ratings are defined in Appendix II.

2.3.4 Recommendations from the 2022/23 Annual Report

In the 2022/23 Annual Report, it was recommended:

1. THAT in the first instance, monitoring of discharges from Firth Industries in the 2023/24 year continues at the same level as in 2022/23.

2. THAT should there be issues with environmental or administrative performance in 2023/24, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Recommendation one was undertaken. Recommendation two was not implemented.

2.3.5 Alterations to monitoring programmes for 2024/25

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.

Planned changes for 2024/25 monitoring programme include:

- an additional Total Petroleum Hydrocarbons test of the IND001054 discharge to more accurately identify and measure potentially polluting activity on site.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site in question. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2023/24.

2.4 Recommendations

1. THAT in the first instance, monitoring of discharges from Firth Industries in the 2024/25 year continues at the same level as in 2023/24.
2. THAT should there be issues with environmental or administrative performance in 2024/25, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

3. Fletcher Concrete and Infrastructure Ltd

3.1 Process description

Fletcher Concrete operates a concrete batching plant, including storage and retail of concrete product, on a site just north of Stratford on State Highway 3 (Mountain Road). The site is run by a division of Fletcher Concrete, namely Firth Industries.

The concrete batching plant operation primarily involves the mixing of aggregate, cement, water and additives in a concrete truck mixing bowl in order to produce concrete, which is then delivered to the end user.

A tributary of the Kahouri Stream runs under the plant site. Wastewater from the plant is treated by settlement in a series of three settling ponds before discharging into the Kahouri Stream. Washwater may also be held in an additional batching pond, or within three wastewater tanks and recycled for use in truck washing and the concrete making process.

Sludge from the settling ponds is removed periodically and stored on site to dry. Excess concrete from the returning trucks is also off loaded at the site. Initiatives and strategies to reduce waste and correctly dispose of unavoidable waste are continuously being developed.

Stormwater from the roof of the main building discharges to a sump and then to a soakhole, which is then used to supplement recycled water in the concrete making process. Remaining stormwater from the yard areas is directed into two stormwater ponds, then pumped into storage tanks or discharged.

Figure 3 Location of the Fletcher Concrete Firth Industries site, Stratford

3.2 Results

3.2.1 Inspections

Routine compliance monitoring inspections were undertaken on 06 March 2024 and 30 May 2024. Sampling undertaken during the May inspection revealed there was a non-compliance with the limits specified for suspended solids in Resource Consent 5026.

3.2.2 Results of discharge and receiving environment monitoring

Figure 4 Fletcher Concrete (Firth Industries) provisional sampling sites, Stratford

The monitoring sites associated with the Fletcher Concrete Stratford depot are shown in Figure 4.

Discharge and receiving water samples were collected during the inspection on 30 May 2024. The results of this sampling are shown in Table 6.

Table 7 Monitoring results of Fletcher Concrete receiving water sampling, 17 March 2023

Parameters	Unit	KHI000354 70m upstream	IND001030 discharge	KHI000355 30m downstream	Discharge consent limits
Temperature	Deg. C	9.7	7.9	16.3	-
Conductivity	mS/m	11.6	15.2	10.9	-
pH	-	7.2	9.7	7.4	-
Oil and Grease	g/m^3	-	<7	-	15
Suspended solids	g/m^3	4	172	8	100
Chloride	g/m^3	-	-	-	50

The sample from site IND001030 (discharge of settling pond) gave a total suspended solids reading of $172g/m^3$ thus exceeding the $100g/m^3$ limit specified in the Resource Consent.

3.3 Discussion

3.3.1 Discussion of site performance

Visual inspections of the Fletcher concrete site in Stratford have observed that the site generally appears to be well managed. However, one discharge sample taken during the year under review was non-compliant with consent condition 7. The reading of 172g/m^3 exceeded the consent limit of 100g/m^3. The consent holder was notified and asked to investigate the cause of the exceedance. The investigation found that the yard settling pond contained a large amount of sediment, which resulted in an increase in turbidity after heavy rain events. The settling pond underwent a deep clean and subsequent testing carried out by the consent holder in low-flow conditions returned a suspended sediment result below the consented limit.

An updated Stormwater Management Plan was received by council in May 2024, detailing several mitigation methods which have been implemented to avoid future non-compliance. These include the use of hay bales, installation of a new lined wedgepit for sediment settlement before discharge, moving the aggregate further away from the discharge point, use of an organic binder to be used on the unsealed area to reduce sediment tracking, relocating the truckwash area and utilising silt fencing. These measures should reduce the turbidity that was observed during the site inspection and subsequently the measured total suspended solids.

No air related issues were noted during the period under review.

3.3.2 Environmental effects of exercise of consents

High suspended solids can have a negative impact on waterways by increasing temperature and decreasing dissolved oxygen, thereby creating an unsuitable environment for aquatic species. Exceedances in this condition have been noted before and recent improvements on site are expected to reduce the likelihood of reoccurrence. The effect of the raised suspended solids in the discharge on the receiving environment is expected to be minimal due to the low volume of the discharge at time of inspection. However, ongoing discharges with high suspended solids has the potential to produce long term degradation.

No complaints from the public were received regarding the effects of operations at the Firth Hawera site.

3.3.3 Evaluation of performance

A summary of Fletcher Concrete's compliance record for the year under review is set out in Table 9.

Table 8 Summary of performance for Fletcher Concrete's consent 5026-2

Purpose: To discharge stormwater and wastewater from a concrete product manufacturing and storage site onto and into land and into an unnamed tributary of the Kahouri Stream in the Patea catchment.		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Best practicable option	Inspection of the site	Yes
2. Maximum catchment area	Inspection of the site	Yes
3. Discharge volume limit	Inspection of the site and discharge system	Yes
4. System in accordance with information supplied with application	Inspection of the site	Yes
5. Hazardous substances storage bunded	Inspection of the site	Yes
6. Receiving water pH range, 6.0-9.0	Sampling	Yes
7. Concentration limits	Sampling and visual assessment of the discharge	No

Purpose: To discharge stormwater and wastewater from a concrete product manufacturing and storage site onto and into land and into an unnamed tributary of the Kahouri Stream in the Patea catchment.		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
8. Mixing zone effects	Inspections of the site and receiving water	Yes
9. Contingency planning	Plan on file May 2024	Yes
10. Stormwater management plan	Plan on file May 2024	Yes
11. Notification of any changes to processes	Notified of updated contingency and stormwater management plans, including subsequent changes to onsite processes.	N/A
12. Consent lapse	Consent has been exercised	N/A
13. Optional review of conditions	No further options for review	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**Good** **High**

N/A = not applicable

Table 9 Evaluation of environmental performance over time

Year	Consent numbers	High	Good	Improvement req	Poor
2019/20		1	-	-	-
2020/21		-	1	-	-
2021/22		1	-	-	-
2022/23		-	1	-	-
2023/24		-	1	-	-

During the 2023/24 monitoring year, Fletcher Concrete demonstrated a good level of environmental performance and a high level administrative compliance with their resource consent as defined in Appendix II. During year there was one minor non-compliance, which was dealt with immediately.

3.3.4 Recommendations from the 2022/23 Annual Report

In the 2022/23 report it was recommended:

1. THAT in the first instance monitoring of discharges from Fletcher Concrete in the 2023/24 year is increased to two sets of sampling rather than the one undertaken in 2022/23.
2. THAT should there be issues with environmental or administrative performance in 2023/24, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Recommendation one was undertaken. Recommendation two was not implemented.

3.3.5 Alterations to the monitoring programme for 2024/25

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

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

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

It is proposed that for 2024/25, the programme undergoes the following changes:

- to test for Total Petroleum Hydrocarbons in place of Oil and Grease when sampling the discharge waters from IND001054, so as to better reflect the wording of consent condition 7; and
- to additionally test for Chloride concentration in the discharge waters from IND001054, so as to better monitor consent condition 7.

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 2024/25.

3.4 Recommendations

1. THAT in the first instance monitoring of discharges from Fletcher Concrete in the 2024/25 year is increased to two sets of sampling rather than the one undertaken in 2023/24.
2. THAT should there be issues with environmental or administrative performance in 2024/25, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Glossary of common terms and abbreviations

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

Bund	A wall around a tank to contain its contents in the case of a leak.
Chloride	Measured in g/m^3
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in µS/cm.
g/m^3	Grams per cubic metre.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
Incident Register	The Incident Register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
L/s	Litres per second.
m^2	Square Metres.
m^3	Cubic Meters.
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.
µS/cm	Microsiemens per centimetre.
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.
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.
SS	Suspended solids.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.

For further information on analytical methods, contact a manager within the Environment Quality Department.

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Appendix I

Resource consents held by Firth Industries and Fletcher Concrete

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:	Firth Industries (Division of Fletcher Concrete & Infrastructure Limited) P O Box 99904 Newmarket AUCKLAND 1149
Consent Granted Date:	14 July 2010

Conditions of Consent

Consent Granted:	To discharge treated wastewater from a concrete batching plant via settling ponds onto and into land and into an unnamed tributary of the Tawhiti Stream in the Tangahoe catchment at or about (NZTM) 1710199E-5617961N
Expiry Date:	1 June 2028
Review Date(s):	June 2016, June 2022
Site Location:	Glover Road, Hawera
Legal Description:	Site location: Lot 2 DP 17199 Blk V Hawera SD Discharge point: Lot 1 DP 19937
Catchment:	Tangahoe
Tributary:	Tawhiti

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 [the Council] all the administration, monitoring and supervision costs of this consent, fixed in accordance to section 36 of the Resource Management Act.

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 discharge shall not exceed a total volume of 2 cubic metres per day.

3. All wash water shall be directed for treatment through the sediment retention pond system prior to discharge from the site.

4. The consent holder shall maintain the sediment retention pond system, including regular removal of the sediment accumulated in ponds, to ensure adequate retention time for the discharge to meet the special conditions 5 and 6 of this consent.

5. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	**Standard**
suspended solids	Concentration not greater than 200 gm^{-3}
oil and grease	Concentration not greater than 15 gm^{-3}

This condition shall apply before entry of the treated wash water 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 25 metres downstream of the discharge point, the discharge shall not give rise to any or all of the following effects in the receiving water:

a) an increase of pH by more than 0.5 pH units;
b) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
c) any conspicuous change in colour or visual clarity;
d) any emission of objectionable odour;
e) the rendering of fresh water unsuitable for consumption by farm animals;
f) any significant adverse effects on aquatic life.

7. 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 2016 and/or June 2022 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 14 July 2010

For and on behalf of
Taranaki Regional Council

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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:	Fletcher Concrete & Infrastructure Limited Private Bag 99904 Newmarket AUCKLAND
Consent Granted Date:	7 May 2009

Conditions of Consent

Consent Granted:	To discharge stormwater and wastewater from a concrete product manufacturing and storage site onto and into land and into an unnamed tributary of the Kahouri Stream in the Patea catchment at or about (NZTM) 1710131E-5646578N
Expiry Date:	1 June 2028
Review Date(s):	June 2016, June 2022 and/or within 3 months of receiving notification under special condition 11
Site Location:	3524 Mountain Road, Stratford
Legal Description:	Lots 1 & 2 DP 6111 Lot 1 DP 5823 Blk I Ngaere SD
Catchment:	Patea
Tributary:	Kahouri

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 stormwater discharged shall be from a catchment area not exceeding 13,700 m^2.

3. The discharge of wastewater shall not exceed 5 m^3/day.

4. The wastewater and stormwater system shall be as indicated in the drawings provided with application 6133 titled *Fletcher Concrete and Infrastructure Ltd Stratford Site Mountain Road* (SH3) S1-00, S1-01, S1-02, S1-03, and S1-03 Diagram 1.

5. Any above ground hazardous substances storage areas shall be bunded with drainage to sumps, or other appropriate recovery systems, and not directly to the stormwater catchment.

6. 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 a pH level in the receiving waters outside of the range 6.0-9.0.

7. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	**Standard**
suspended solids	Concentration not greater than 100 gm^{-3}
total recoverable hydrocarbons	Concentration not greater than 15 gm^{-3} [as determined by infrared spectroscopic technique]
Chloride	Concentration not greater than 50 gm^{-3}

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

8. 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.

9. The consent holder shall maintain a contingency plan. 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.

10. The consent holder shall 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.

11. 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 worknotification@trc.govt.nz. Notification by fax or post is acceptable if the consent holder does not have access to email.

12. This consent shall lapse on 30 June 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.

13. 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 2016 and/or June 2022; and/or
b) within 3 months of receiving a notification under special condition 11 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 7 May 2009

For and on behalf of
Taranaki Regional Council

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Director-Resource Management

Appendix II

Categories used to evaluate environmental and administrative performance

Categories used to evaluate environmental and administrative performance

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

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

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

Environmental Performance

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

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

For example:

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

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

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

Administrative performance

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

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

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

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