

Stormwater discharges

**Recommendations in response to
submissions on the Proposed Regional Plan
for Northland - Section 42A hearing report**

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Purpose and format of the report

1. This report was prepared in accordance with section 42A of the Resource Management Act 1991 (RMA). It addresses submissions on rules for stormwater discharges in the Proposed Regional Plan for Northland (Proposed Plan).
2. In most cases, the recommended changes to the Proposed Plan are not set out verbatim in this report. The specific changes (including scope for changes) are shown in the document 'Proposed Regional Plan for Northland – S42A recommended changes'.
3. If there is no recommendation in this report to amend a provision in the proposed plan then the general presumption is that it should be retained as notified.
4. I have endeavoured to address every submission on the provisions, but there may be cases where inadvertently I have not. All references to submissions in this report are in relation to primary submissions only.
5. This report is structured with a focus on the key matters raised in submissions relating to the proposed provisions, which are:
 - Managing discharges from public stormwater networks;
 - Managing stormwater discharges from industrial and trade premises and contaminated land;
 - Discharge and receiving water quality standards; and
 - Stormwater attenuation and flood prevention.
6. Submissions that fall outside the key matters are addressed in the “Other matters” section in less detail.
7. The approach of addressing matters raised in submissions (rather than addressing submissions and/or and submission points individually) is consistent with Clause 10 of Schedule 1 to the RMA.
8. Further submitters are generally not referred to as they either support or oppose original submissions (they cannot go beyond the scope of the original submissions).
9. This report should be read in conjunction with chapter 4.7 in the RMA section 32 report for the Proposed Plan.

Report author

10. My name is Ben Michael Tait and I have overall responsibility for this report. I am employed as a policy analyst by Northland Regional Council (regional council). Refer to the section 42A report titled 'General approach' for further details about my qualifications and experience. Michael Payne (Policy Analyst, Northland Regional Council) is responsible for aspects for the stormwater rules that pertain to contaminated land.
11. I have read the Code of Conduct for Expert Witnesses contained in the Practice Note issued by the Environment Court December 2014, and have complied with the code when preparing this report and agree to comply with it at the hearings.
12. The recommendations that I make in this report are not binding on the hearing panel, and I understand that the hearing panel may not agree with my recommendations. Also, I may change my recommendations in response to evidence presented to the hearing panel. I expect that the hearing panel will ask me to report any changes to my recommendations at the end of the hearing.

About the stormwater discharges provisions

13. The relevant provisions in the Proposed Plan for stormwater discharges addressed in this report are listed below.

Definitions

- High risk industrial and trade premises
- Impervious area
- Public stormwater network
- Stormwater collection system
- Stormwater interceptor

Rules

- C.6.4.1 Stormwater discharges from a public stormwater network – permitted activity
- C.6.4.2 Other stormwater discharge – permitted activity
- C.6.4.3 Stormwater discharges – controlled activity
- C.6.4.4 Stormwater discharge from contaminated land and high risk industrial or trade premises – discretionary activity

Other

- H.2 Stormwater management plans

Managing discharges from public stormwater networks

Background

14. Rule C.6.4.1 permits discharges from public stormwater networks subject to conditions, including discharge and receiving water quality standards and the requirement for the operators of certain networks to prepare and operate their networks in accordance with a stormwater management plans.
15. The rule states that the stormwater management plans must be consistent with the requirements in Appendix H.2 and is regularly updated to reflect any physical or planned changes that exceed the most recent design horizon of the plan.
16. Appendix H.2 states that a stormwater management plan must be matched to the scale and complexity of the network and include specific information such as plans of the stormwater network and the location of high risk industrial and trade premises in the catchment.
17. It is also important to note that the Proposed Plan does not contain rules for discharges into public stormwater networks. This is because the regional council considers that network operators are ultimately responsible for managing private connections to their networks and the quality of stormwater discharged from the networks.

Submissions and analysis

18. Far North District Council, Whangarei District Council and Kaipara District Council submitted that they need five years, not two, to develop the stormwater management plans because of resource constraints. For example, Whangarei District Council stated that while it “has endeavoured to budget for the future preparation of stormwater management plans, it is unlikely that the 2 year time frame will be achieved for all of the nominated catchments identified in Table 5 [and that it] seeks a 5 year time frame to ensure alignment with LTP cycles.”¹
19. The district councils also submitted that some of the information requirements in Appendix H.2 are not readily available and the regional council should assess and approve stormwater management plans on a case-by-case basis. It is important to note that under

¹ Whangarei District Council. p.23

rule C.6.4.1 the regional council will have to accept stormwater management plans that are consistent with Appendix H.2. I understand that it will not be able to 'decline' a stormwater management plan that it disapproves of but which is consistent with the appendix. This is because case-law has established that permitted activities should not retain later discretions (decision-making) to council officers.

20. Northland Fish and Game considers that "[t]he requirements in condition 8 [of rule C.8.4.1] would be difficult to determine compliance with as a permitted activity."² It also considers "that the rule should be amended to significantly reduce the scale of permitted activity to ensure water quality standards will not be breached or change the activity status of the rule", and that "[t]he rule should also identify high-risk catchments and exclude the activity from them." The Royal Forest and Bird Society submitted along the same lines.³
21. I agree with Northland Fish and Game and the Royal Forest and Bird Society that a permitted activity status is probably not the appropriate classification for managing stormwater discharges from medium to large public stormwater networks. I am also cognisant of commentary that councils should avoid writing permitted activities in such a way that their status becomes subject to the fulfilment of resource-consent type conditions (for example, the lodgement of a noise management plan).⁴
22. I am also not satisfied that none of the effects listed in section 70 of the RMA are likely to arise in receiving waters after reasonable mixing, as a result of the discharge of stormwater and contaminants from the networks listed in table 5 of rule C.6.4.1. For these reasons, I consider that discharges from the 'priority public stormwater networks' servicing the urban areas in table 5 of rule C.6.4.1 should be classified as a controlled activity. This was identified as a management option in the RMA section 32 evaluation report.
23. I consider that the requirement for stormwater management plans for the networks would no longer be relevant if discharges from the urban networks are classified as a controlled activity.
24. While not directly in relation to rule C.6.4.1, David Lourie stated in his submission that the plan should require a range of stormwater management practices, including swales,

² Northland Fish and Game. p.42

³ Royal Forest and Bird Protection Society of New Zealand. p.53

⁴ <http://www.qualityplanning.org.nz/index.php/plan-steps/writing-plans/writing-effective-and-enforceable-rules>

constructed wetlands, recycling water and plastic traps.⁵ On a similar note, Patuharakeke Te Iwi Trust Board Inc. wants the council to contain “stormwater discharge rules that actively encourage treatment train approaches”. I understand that the term ‘treatment train’ refers to a sequence of multiple stormwater treatment measures which are designed to meet stormwater quality and quantity objectives for a particular site.

25. Auckland Council’s guideline document Water Sensitive Design for Stormwater (GD2015/004) states that the “treatment train is based on a logical sequence of stormwater flowing through a catchment, beginning with stormwater runoff controls at-source, followed by capture and treatment of overland flow, and finally the enhancement of receiving environments to enhance their stormwater management function.”⁶
26. Far North District Council, Whangarei District Council and Kaipara District Council have environmental engineering standards that promote or require stormwater attenuation and treatment options.⁷ I consider that the district councils are the most appropriate authorities to encourage, require or fund water sensitive urban design and other stormwater contamination prevention measures because they are ultimately responsible for the quality of stormwater discharged from their reticulation networks. They also have power to do so under the RMA and the Local Government Act 2002.
27. I also note that Method 4.2.2(2) of the Regional Policy Statement for Northland requires district councils to consider including provisions in district plans to manage subdivision and the development of land for water quality purposes:

District councils shall include methods in district plans to manage the effects of subdivision and the development of land (including notices of requirement) for the purposes of improving the overall water quality of fresh and coastal waters. Methods shall include:

- (a) Where appropriate, requiring esplanade reserves and esplanade strips where they will contribute to maintaining or improving water quality;*
- (b) Promoting new appropriately vegetated riparian buffer zones, including on esplanade reserves or esplanade strips; and*

⁵ David Lourie. p.2

⁶ Lewis, M., James, J., Shaver, E., Blackburn, S., Leahy, A., Seyb, R., Simcock, R., Wihongi, P., Sides, E., & Coste, C. (2015). *Water sensitive design for stormwater*. Auckland Council Guideline Document GD2015/004. Prepared by Boffa Miskell for Auckland Council. p.129

⁷ Far North District Council Engineering Standards & Guidelines 2004 – Revised March 2009., Whangarei Environmental Engineering Standards 2010., Kaipara District Council Engineering Standards 2011.

- (c) Considering the adoption of low impact urban design techniques to minimise the potential adverse effects of contaminants in receiving waters, such as using constructed and restored wetlands.*

Recommendation

28. I recommend that the following amendments are made to the Proposed Plan:
- Classify discharges of stormwater from the public stormwater networks servicing the urban areas in table 8 of rule C.6.4.1 as a controlled activity; and
 - Delete the requirement for stormwater management plans, including conditions 6, 7 and 8 of rule C.6.4.1.

Evaluation of recommended changes

29. Section 32AA of the RMA requires an evaluation of proposed changes to the Plan. The changes, while potentially more than minor in effect, are considered to be within the scope of the preferred management option as set out in Section 4.7.4 of the RMA section 32 report for the Proposed Plan, and therefore do not require further evaluation.

Managing stormwater discharges from industrial and trade premises and contaminated land

Background

30. Rule C.6.4.2 permits the diversion and discharge of stormwater into water or onto land from industrial and trade premises, provided the discharge is not from a public stormwater network or a high risk industrial or trade premises. The discharge of stormwater from a high-risk industrial or trade premises is a discretionary activity (rule C.6.4.4).

31. The RMA defines an industrial or trade premises to mean:⁸

- (a) any premises used for any industrial or trade purposes; or*
- (b) any premises used for the storage, transfer, treatment, or disposal of waste materials or for other waste-management purposes, or used for composting organic materials; or*
- (c) any other premises from which a contaminant is discharged in connection with any industrial or trade process; –*

⁸ RMA s2

but does not include any production land.

32. For completeness, industrial or trade process and production land have the following meanings under the RMA:⁹

***industrial or trade process** includes every part of a process from the receipt of raw material to the dispatch or use in another process or disposal of any product or waste material, and any intervening storage of the raw material, partly processed matter, or product*

***production land**—*

(a) means any land and auxiliary buildings used for the production (but not processing) of primary products (including agricultural, pastoral, horticultural, and forestry products):

(b) does not include land or auxiliary buildings used or associated with prospecting, exploration, or mining for minerals,—

*and **production** has a corresponding meaning*

33. A high-risk industrial or trade premises is defined in the plan as:

An industrial or trade premises used for any of the following purposes and stores, uses or generates contaminants in the industrial or trade process at the site which are exposed to rain or stormwater:

- 1) boat construction and maintenance,
- 2) port activities including dry docks,
- 3) commercial cement, concrete or lime manufacturing or storage,
- 4) chemical manufacture, formulation or bulk storage, recovery, processing or recycling,
- 5) fertiliser manufacture or bulk storage
- 6) petroleum or petrochemical industries including a petroleum depot, terminal, blending plant or refinery, or facilities for recovery, reprocessing or recycling petroleum-based materials,
- 7) scrap yards including automotive dismantling, wrecking or scrap metal yards, and
- 8) wood treatment or preservation (including the commercial use of anti-sapstain chemicals during milling), or bulk storage of treated timber.

34. The reason for including the activities and industries in the definition was somewhat subjective. It involved several staff of regional council considering the potential risk of stormwater being contaminated by activities in the Hazardous Activities and Industries

⁹ Ibid

List¹⁰, which “is a compilation of activities and industries that are considered likely to cause land contamination resulting from hazardous substance, use storage or disposal.”¹¹

35. It was a qualitative exercise and was based on the supposition that it is not appropriate to manage all stormwater discharges from industrial or trade premises by way of permitted activity rules. That is, some activities should be subject to a case-by-case assessment by way of resource consenting processes because they are a higher risk to the environment than others.
36. Rule C.6.4.2 also permits the diversion and discharge of stormwater from contaminated land provided, among other things:
- a) a site investigation report prepared by a suitably qualified and experienced practitioner demonstrates that the stormwater discharge does not contain more than:
 - i) 15 milligrams per litre of total petroleum hydrocarbons, and
 - ii) 0.13 micrograms per litre of perfluorooctane sulfonate acid and perfluorohexane sulfonate, and
 - iii) 632 micrograms per litre of perfluorooctanoic acid, and
 - iv) the concentrations listed in Table 3.4.1 in the Australian and New Zealand Guidelines for Fresh and Marine Waters (ANZECC 2000), at the 95% species protection level, and
 - b) the discharge is not via deep soakage or rapid infiltration systems, and...
37. The RMA defines contaminated land as:

...land that has a hazardous substance in or on it that –

(a) has significant adverse effects on the environment; or

(b) is reasonably likely to have significant adverse effects on the environment.

Submissions and analysis

Definition of a high-risk industrial or trade premises

38. Fonterra stated in its submission that the “definition of ‘high risk industrial and trade premises’ is broadly cast” and “that there is a risk that activities that store chemicals for use on site (such as its manufacturing sites) may be inadvertently captured by the

¹⁰ Hazardous Activities and Industries List (HAIL): October 2011.

¹¹ <http://www.mfe.govt.nz/land/hazardous-activities-and-industries-list-hail>

definition.”¹² It wants the fourth criterion in the definition to be amended to state that it excludes premises that store chemicals for use on site.

39. The Oil Companies stated that they are concerned that the definition of a high risk industrial and trade premises is uncertain and may inappropriately capture some of their facilities. However, they “are not opposed to the concept or the intent of the definition of High Risk Industrial and Trade Premises” but consider “that discharges complying with industry codes of practice and/or the [Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand (MfE 1998)] are not classified as high risk industrial or trade premises.”¹³
40. They also consider that the environmental risks that service stations, truck stops and commercial refuelling facilities “are well understood and are readily managed via compliance with the MfE Guideline for Water Discharges.” To that end, they would like services stations, truck stops and commercial refuelling stations excluded from the definition of high risk industrial and trade premises.¹⁴ The Oil Companies believes that stormwater discharges from these sites can be adequately controlled by way of condition 3 of rule C.6.4.2. I agree with the Oil Companies. I understand that a stormwater treatment system (as per a recommended definition) should capture oil contaminants from service stations, truck stops and commercial refuelling stations.
41. GBC Winstone is concerned that the definition of a high risk industrial and trade premises “does not refine ‘high-risk’ to only apply to only those areas of a site where contaminants are stored, used or generated and which are exposed to rain or stormwater.”¹⁵ It requested that the definition of a high risk industrial or trade premises be “amended to apply to only those parts of a site that are high-risk rather than capturing entire sites [which] reflects the approach taken in the Auckland Unitary Plan (as partially operative).”¹⁶
42. The Auckland Unitary Plan controls the use of land for industrial and trade activities and discharges of contaminants. The level of risk associated with the activities is based on the size of the industrial or trade activity area:¹⁷

¹² Fonterra. p.6

¹³ The Oil Companies. p.7

¹⁴ The Oil Companies. p.8

¹⁵ GBC Winstone. p.8

¹⁶ GBC Winstone. p.8

¹⁷ Auckland Unitary Plan (Operative in part). Table E33.4.3.

The level of risk e.g. low, moderate or high, determines the type of authorisation required for the activity. Thereafter compliance or otherwise with the provisions of the industrial or trade activity rules, or changes to the size of the industrial or trade activity area, dictate the site's status and therefore the site's risk status can change over time.

43. The approach is different than the Proposed Plan. The regional council considered the adopting a similar approach but decided against it in the interests of a simpler planning framework.
44. With respect to GBC Winstone's submission, I consider that the size of the 'high risk' part of an industrial or trade premises is not necessary in the context of the Proposed Plan. I am not convinced that there is a strong relationship between the size of a site and its potential risk to the environment.
45. Ravensdown Ltd "opposes the current definition of 'high risk' industrial or trade premise that include fertiliser bulk storage, and does not differentiate between those storage facilities that are covered and have stormwater collection systems, and those that do not."¹⁸ It submitted that either the definition of high risk industrial or trade premises or Rule C.6.4.2 and Rule C.6.4.3 should be amended to provide for discharges from fertiliser bulk storage facilities that are enclosed.¹⁹
46. The definition of a high risk industrial or trade premises is intended to capture certain activities that store, use or generate contaminants in the industrial or trade process at the site which are **exposed** to rain or stormwater. For this reason I do not understand Ravensdown's concerns.
47. I think that the best way to make this clear is to amend the first part of the definition by stating that it applies to contaminants that can be entrained in stormwater.
48. Balance Agri-Nutrient Ltd considers that while the approach to managing high risk industrial or trade premises is "broadly appropriate, there are a number of recognised standards applicable to the fertiliser industry that provide for a high degree of environmental protection through operational controls on management systems."²⁰ It wants the definition of a high risk industrial or trade premises to be amended to exclude

¹⁸ Ravensdown Ltd. p.8

¹⁹ Ravensdown Ltd. p.9

²⁰ Balance Agri-Nutrients Ltd. p.3

fertiliser manufacture and bulk storage where the activity it is done in accordance with the following standards:

- Fertiliser (Corrosive) Group Standard HSR002569
- Fertiliser (Oxidising) Group Standard HSR002570
- Fertiliser (Subsidiary Hazard) Group Standard HSR002571
- Fertiliser (Toxic) Group Standard HSR002572
- FertResearch's Code of Practice for Nutrient Management 2007

49. Balance Agri-Nutrients Ltd also wants rule C.6.4.3 amended by excluding fertiliser manufacture and bulk storage activities that are done in accordance with the five industry standards.²¹

50. It is not clear why Balance Agri-Nutrients are concerned about the definition of a high-risk industry or trade premises. It only pertains to fertiliser manufacture and bulk storage sites (not on production land) where hazardous substances are exposed to rain and enter stormwater.

51. Landcorp Farming Ltd stated that the definition should be amended to clarify that it does not include fertiliser stored on farms.²² It is important to note that the RMA definition of an industrial or trade premises excludes production land, which as pointed out above includes land and auxiliary buildings used for production of primary products (including agricultural, pastoral, horticultural, and forestry products). The sought amendment is not necessary.

Stormwater pollution prevention measures for other industrial or trade premises

52. Several submissions were made on conditions 3 and 4 of rule C.6.4.2 which require measures to prevent and minimise the potential for contaminants from industrial and trade premises (that are not deemed 'high risk') from entering stormwater.

53. Tegel Foods Ltd considers that conditions 3 and 4 should be updated to so that they are consistent with an amended definition of a stormwater interceptor.²³ It stated:

The definition of stormwater interceptor includes two different types of systems. Tegel considers separate definitions ['Secondary Containment System' and 'Stormwater

²¹ Balance Agri-Nutrients Ltd. p.7

²² Landcorp Farming Ltd. p.15

²³ Tegel Foods Ltd. p.16

Treatment System'] should be provided for the containment of spills and for stormwater treatment devices. This will assist in clarifying the requirements in the specific rules.

54. I agree with Tegel Foods; for clarity, it would be sensible to replace the definition of a stormwater interceptor with definitions for a 'secondary containment system' and a 'stormwater treatment system'.
55. The Oil Companies support condition 3 of Rule C.6.4.2 which permits discharges containing oil and grease provided they have passed through an oil interceptor (a treatment system). However, they want the plan to be amended by clarifying that "oil and grease" applies to hydrocarbon fuels.²⁴ I consider that the "oil and grease" should be replaced with "oil contaminants" with the associated definition: Oil contaminants means petroleum-based contaminants which have the potential to contaminate water. This is consistent with the Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand.²⁵
56. Horticulture New Zealand considers that condition 3 should be amended so that it does not duplicate regulations for hazardous substance storage areas issued under the Hazardous Substances and New Organisms Act 1996. It stated that this would be achieved by amending condition 3 to state "where the stormwater diversion or discharges is from a hazardous substance storage area the HSNO requirements for storage will be met."²⁶ It is not clear to me what regulations Horticulture New Zealand are referring to.
57. The Oil Companies submitted that Condition 4(a) of Rule C.6.4.2 should be amended to provide clarity that it is seeking to control contaminants that are not already controlled by Condition 3. I support an amendment to clarify this.

Activity classifications

58. Refining NZ requested new controlled activity rule for the existing and new discharges (stormwater, industrial or trade wastewater, wastewater discharges) from its refinery because "the historical monitoring of discharges from the Company's Marsden Point Site

²⁴ The Oil Companies. p.

²⁵ Ministry for the Environment. 1998. Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand. Prepared by a Joint Working Group of the Ministry for the Environment, local authorities, and petroleum marketing companies.

²⁶ Horticulture NZ. p43

demonstrates that the effects of the discharges from its operations are able to be appropriately managed.”²⁷

59. However, it also stated that if the relief is not granted then Rule C.6.4.3 should be amended to provide for stormwater discharges “from a private stormwater network servicing Regionally Significant Infrastructure”.²⁸ Refining New Zealand argued that a controlled activity is “consistent with objectives 3.7 and 3.8 and policies 5.3.2 and 5.3.3 of the RPS and an efficient means of providing for such sites.” It is not clear to why stormwater discharges from regionally significant infrastructure deemed to be high-risk industrial or trade premises should be treated differently from other high-risk premises. Refining New Zealand were also not clear on how Policies 5.3.2 and 5.3.3 related to Rule C.6.4.3
60. Northland Fish and Game that Rule C.6.4.4 should be changed to a non-complying activity and the plan should not allow stormwater discharges from high risk industrial and trade premises to freshwater bodies or wetlands. The Royal Forest and Bird Protection Society made a similar submission.²⁹
61. I disagree with Northland Fish and Game and the Royal Forest and Bird Protection Society; the potential risks of stormwater contamination can be adequately assessed and addressed under a discretionary activity rule.

Stormwater discharges from contaminated land

62. There were several submitters that questioned condition 5 which relates to the discharge of stormwater from contaminated land. Please note that the submissions are addressed in the RMA section 42A report titled ‘Contaminated land’.

Other

63. Kaipara District Council and Whangarei District Council submitted that condition 3 of Rule C.6.4.1 is not reasonably practicable to exclude all trade wastes or cooling water from stormwater. Kaipara District Council added that at present there is not a regulatory mechanism in place for the council to ensure that this condition can be met. I am not convinced by their argument. The councils can issue bylaws for private connections to

²⁷ Refining New Zealand. p.19

²⁸ Refining NZ. p.19

²⁹ Royal Forest and Bird Protection Society of New Zealand. p.53

public stormwater networks. For example, Whangarei District Council's Stormwater Management Bylaw (2014) states that "[n]o person other than a Council officer may discharge, make a new connection to, alter, or otherwise interfere with any facet of any public or private stormwater system or overland flow path without the prior written approval of Council."³⁰

64. In other words, I do not think that it is unreasonable for the district councils to enact bylaws to regulate the discharge of wastewater from an industrial or trade premises into a public stormwater network. Regardless, if there is a risk of industrial or trade wastewater being discharged into stormwater, then I think it is appropriate that a resource consent be applied for so the risks can be assessed and appropriate conditions put in place.
65. Far North District Council stated that stormwater discharges from high risk industrial or trade premises to water can have adverse effects on municipal water networks and want to be considered as a potentially affected party when considering applications for resource consents.³¹ Rule C.6.4.4 does not preclude applications for resource consents to authorise stormwater discharges from high risk premises to be precluded from notification. I do not think that it is necessary to identify district councils as affected parties under the rule. In my opinion, section 95 of the RMA provides sufficient direction on public notification and limited notification of applications.

Recommendation

66. I recommend that the following amendments are made to the Proposed Plan in respect to the submissions relating to managing stormwater discharges from industrial and trade premises and contaminated land:
- Change the part of the definition of a high risk industrial or trade premises by replacing "which are exposed to rain or stormwater" with "that are exposed to rain and can be entrained in stormwater";
 - Exclude service stations, truck stops and refuelling stations in the definition of high risk industrial or trade premises;
 - Change condition 3 of rule C.6.4.1 by replacing "any wastes or cooling water" with "contaminants used, stored or generated";

³⁰ Whangarei District Council. 2014. Stormwater Management Bylaw. p.3

³¹ Far North District Council. p.13

- Replace the term “stormwater interceptor” with the terms “stormwater treatment system” and “secondary containment system” and associated definitions; and
- Make several minor changes to the rules in the interests of clarity.

Evaluation of recommended changes

67. Section 32AA of the RMA requires an evaluation of proposed changes to the Plan. I consider that excluding service stations, truck stops and refuelling stations from the definition of a high risk industrial or trade premises will reduce potential regulatory costs but not at the expense of the environment. The other recommended changes are of minor effect.

Discharge and receiving water quality standards

Background

68. Rules C.6.4.1 and C.6.4.2 require stormwater discharges to meet discharge and receiving water quality standards for the activities to be permitted. The discharge quality standards are concentration limits for total petroleum and suspended sediments. The receiving water quality standard are combination of RMA s70(1)(c)-(d) narrative standards and numeric fresh and coastal water quality standards that mainly specify concentration limits for a range of contaminants. The fresh and coastal water quality standards are set out in policies D.4.1 – D.4.4. Please note that I address submissions on the water quality standards in D.4.1 – D.4.2 in the RMA s42A report titled “Water quality management – general matters”, in which I recommend several amendments to them.
69. Condition 5 of rule C.6.4.2 is specific to stormwater discharges from contaminated land, and also contains numeric discharge quality standards. I briefly address submissions on this condition in the next section of this report (see “The approach to managing stormwater discharges to and from contaminated land”).

Submissions and analysis

70. Whangarei District Council is concerned that the maximum suspended sediment concentration in a stormwater discharge set in condition 4 of rule C.6.4.1 will “prevent compliance” with the rule.³² It also stated that it is concerned about condition 5 as well:³³

WDC manages over 300 outlets discharging to water bodies. Preventing every exceedance is not reasonably practicable. It is suggested that limits be set for (say) 90% of discharges, except conditions 5)e) and f) to provide for discharges in high volume events.

71. The condition was ‘carried over’ from rule 21.1.2 of the Regional Water and Soil Plan, which permits the discharge of stormwater from a stormwater collection system.
72. I am not aware of compliance issues to date but, that said, the regional council does not have a comprehensive stormwater monitoring programme. The purpose of the condition is to ensure that there is an appropriate level of control over discharges containing fine sediment, given that elevated levels of suspended and deposited fine sediment is a significant water quality issue in Northland.
73. I have reservations about using a concentration standard for fine sediment in stormwater. This is because in most cases it does not relate to the loads of sediment (from all sources, point source and diffuse) that enter water bodies during rainfall events or on an annual average basis. For example, some areas in a stormwater reticulation network may generate a larger volume of sediment but result in a lower suspended sediment concentration in a discharge, and vice versa. What is more, the mass of sediment in a volume of stormwater varies temporally and spatially. This means that accurately determining compliance with a maximum suspended sediment concentration standard will be difficult.
74. The New Zealand Transport Agency expressed similar concerns about condition 7 of Rule C.6.4.2:³⁴

Clause 7 specifies specific numeric limits and there are a number of practical issues associated with these.

- a. It is unclear where the measurement of the discharge is to be taken from (ie. zone of reasonable mixing?).*

³² Whangarei District Council. p.23

³³ Ibid

³⁴ New Zealand Transport Agency p.25

b. It is possible that due to, for example, storm or spill events, that the provisions may be exceed on an occasional basis. The current provision should be amended to be a long term average rather than a continuous.

75. The agency requested that condition 7 be expanded to specify how compliance with the numeric standards should be determined.³⁵

76. I consider that condition 7(b) should be deleted from the rule for reasons documented above. However, I consider that condition 7(a) should be retained. I understand that the limit of 15mg/L for total petroleum hydrocarbons (TPH) is derived from the Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand, which was established as the maximum concentration for stormwater from petroleum industry sites. TPH concentrations in discharges from other sources are likely to be significantly lower than 15 mg/L.

77. The Oil Companies stated concerns about condition 8(a) in rule C.6.4.2, which requires a stormwater discharge to not cause an exceedance of a water quality standard or a sediment quality standard in policies D.4.1 – D.4.4:³⁶

It is quite inappropriate to require compliance with standards in a Policy. A policy is NOT a rule. Furthermore, there is no reference to standards of concern relating to the discharge into the pipe and it is too complex to require each and every discharger to carry out this analysis for cumulative discharges from the pipe. Given the standards and terms that a discharge permitted under this rule has to meet, it is quite unnecessary and inefficient to apply this standard. The Oil Companies seek that subsection (a) of Clause 8 be deleted as follows (note that the Oil Companies have made separate and specific submissions on these policies):

78. I agree with the Oil Companies. It is inappropriate to apply the water quality standards in policies D.4.1 – D.4.4 through condition 8 of rule C.6.4.2 (and condition 5 of rule C.6.4.1) for the following reasons:

- It is not clear how some of the standards are to be applied because their exceedance criteria (compliance metrics) are poorly defined;
- Some of the standards are not particularly relevant to stormwater (for example, chlorophyll a);

³⁵ New Zealand Transport Agency. p.24

³⁶ The Oil Companies. P.12

- In many instances it will be difficult to determine if the stormwater discharge is responsible for a breach of a standard due to cumulative sources of a contaminant (for example, nitrogen or phosphorus and heavy metals in deposited sediments); and
- It is not practicable to determine compliance at every discharge point from a large stormwater reticulation network (for example, a public stormwater network).

79. I consider that condition 8(a) and condition 5(a) of rules C.6.4.1 and C.6.4.2 should be deleted.

80. Northland Fish and Game “consider that the rule should be amended to significantly reduce the scale of permitted activity to ensure water quality standards will not be breached or change the activity status of the rule.” It also believes that “[t]he rule should also identify high-risk catchments and exclude the activity from them.”³⁷

81. I recommended earlier in this report that stormwater discharges from the public networks servicing the urban areas in table 5 in rule C.6.4.1 should be classified as a controlled activity. This is consistent with the relief sought by Northland Fish and Game.

82. It is also important to note that several people submitted on the way that the zone of reasonable mixing is applied in the Proposed Plan and requested an alternative approach which involves different sizes depending on the nature of the receiving waters. For further information on this see the RMA section 42A report titled “Water quality management – general matters”. In that report, I also recommend changes to the water quality standards set in policies D.4.1 – D.4.4.

83. Northland District Health Board submitted that stormwater discharges may have potential adverse effects on people when they come into contact with fresh water and that the plan must observe the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 which:³⁸

...requires regional councils to:

- *decline discharge or water permits that are likely to result in community drinking water becoming unsafe for human consumption following existing treatment*
- *be satisfied that permitted activities in regional plans will not result in community drinking water supplies being unsafe for human consumption following existing treatment*

³⁷ Northland Fish and Game. p.42

³⁸ Northland District Health Board. p.17

- *place conditions on relevant resource consents that require notification of drinking water suppliers if significant unintended events occur (e.g. spills) that may adversely affect sources of human drinking water.*

84. The District Health Board want rules C.6.4.1 and C.6.4.2 to specify that stormwater discharges must not render “source water [unsuitable] for human consumption as per the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007” and not have “any more than minor adverse effect on the health of people and communities as affected by their contact with fresh water resulting from the discharge.”³⁹

85. It is important to note the direction in the National Environmental Standards for Sources of Human Drinking Water. Regulation 10 states that a regional council must not include a rule in regional plan to permit an activity under section 9, 13, 14 or 15 of the RMA upstream of an abstraction point that would have certain effects. Regulation 10 applies to an activity that has the potential to affect a registered drinking-water supply that provides 501 or more people with drinking water for not less than 60 days each calendar year. The regulation is shown below for completeness:

10 Limitations on permitted activity rules for activities upstream of abstraction points

- (1) *A regional council must not include a rule or amend a rule in its regional plan to allow a permitted activity, under section 9, 13, 14, or 15 of the Act, upstream of an abstraction point where the drinking water concerned meets the health quality criteria unless satisfied that the activity is not likely to—*
- (a) *introduce or increase the concentration of any determinands in the drinking water so that, after existing treatment, it no longer meets the health quality criteria; or*
 - (b) *introduce or increase the concentration of any aesthetic determinands in the drinking water so that, after existing treatment, it contains aesthetic determinands at values exceeding the guideline values.*
- (2) *A regional council must not include a rule or amend a rule in its regional plan to allow a permitted activity, under section 9, 13, 14, or 15 of the Act, upstream of an abstraction point where the drinking water concerned is not tested in accordance with the compliance monitoring procedures in the Drinking-water Standard unless satisfied that the activity is not likely to—*
- (a) *increase the concentration of any determinands in the water at the abstraction point by more than a minor amount; or*

³⁹ Northland District Health Board. p.18

(b) introduce or increase the concentration of any aesthetic determinands in the drinking water, so that, after existing treatment, it contains aesthetic determinands at values exceeding the guideline values.

(3) A regional council must not include a rule or amend a rule in its regional plan to allow a permitted activity, under section 9, 13, 14, or 15 of the Act, upstream of an abstraction point where the drinking water concerned does not meet the health quality criteria unless satisfied that the activity is not likely to—

(a) increase, by more than a minor amount, the concentration of any determinands in the water at the abstraction point that in the drinking water already exceed the maximum acceptable values for more than the allowable number of times as set out in table A1.3 in Appendix 1 of the Drinking-water Standard; or

(b) increase the concentration of any determinands in the water at the abstraction point that in the drinking water do not exceed the maximum acceptable values for more than the allowable number of times as set out in table A1.3 in Appendix 1 of the Drinking-water Standard to the extent that the drinking water, after existing treatment, exceeds the maximum acceptable values for more than the allowable number of times as set out in the table in relation to those determinands; or

(c) introduce or increase the concentration of any aesthetic determinands in the drinking water so that, after existing treatment, it contains aesthetic determinands at values exceeding the guideline values.

86. I am not aware of any evidence that stormwater discharges permitted by rules C.6.4.1 and C.6.4.2 are contrary to regulation 10 of the National Environmental Standards for Sources of Human Drinking Water. In addition, I do not think that it is appropriate to include a condition in the permitted activity rules that require no “more than minor adverse effect on the health of people and communities as affected by their contact with fresh water resulting from the discharge”. The condition will be difficult to implement. To reiterate, I am not aware of any substantial information that stormwater discharges from public stormwater networks in Northland are causing adverse effects on human health.

87. While not a water quality standard, condition 1 of rule C.6.4.1 states that the diversion and discharge of stormwater must not cause erosion at the point of discharge of downstream. The condition was ‘carried over’ from rule 21.1.2 of the Regional Water and Soil Plan for Northland.

88. Haigh Workman Ltd pointed out:⁴⁰

⁴⁰ Haigh Workman Ltd. p.5

Some erosion is inevitable in rivers and lakes in extreme events. The rule should clarify what stormwater event erosion control should be designed for. For discharges to the foreshore, drainage paths are often subject to periodic blockage by sand and gravel deposited by wave action; scour is necessary to re-establish the drainage path. Provided there is no long term erosion trend, periodic blockages and scour are acceptable. Note Rule C.6.4.1 clause (1) should be clarified in a similar manner.

89. I agree with Haigh Workman Ltd; preventing any erosion at the point of discharge of downstream is a very difficult, perhaps, impossible task during all rainfall events. I also agree with its observation about scouring of the foreshore, which in my opinion cannot be avoided (albeit easily) and is unlikely to have adverse effects on the environment.
90. The purpose of the condition is to ensure that stormwater outfalls are designed in a way to prevent scouring and, consequently, increased sediment loading to water bodies and bank instability. I consider that this is less of an issue in the coastal marine area. I consider that condition 1 in rule C.6.4.1 and the corresponding condition (6) in rule C.6.4.2 be amended so that they state that the diversion and discharge must not cause permanent scouring or erosion of the bed of a water body at the point of discharge.
91. Whangarei District Council sought “clarification on what part of the network constitutes the ‘point of discharge’ (a stormwater flow may enter and exit through various discharge points within the network before the ultimate discharge point at the CMA).”⁴¹ The RMA defines ‘discharge’ to include emit, deposit and allow to escape. It is clear to me that the condition applies to the point at which the discharge leaves the stormwater network and enters a water body.
92. Lastly, note that I recommended that condition 5 in rule C.6.4.2 should be deleted and discharges from, into or onto contaminated land are addressed in the contaminated land section of the Proposed Plan.

Recommendation

93. I recommend that the following amendments are made to the Proposed Plan in respect to the submissions on stormwater discharge and receiving water quality standards:

⁴¹ Whangarei District Council. p.23

- Change condition 1 of rule C.6.4.1 and condition 6 of rule C.6.4.2 so that it states, “the diversion and discharge does not cause permanent scouring or erosion of the bed of a water body at the point of discharge”;
- Delete condition 4(b) of rule C.6.4.1 and condition 7(b) of rule C.6.4.2; and
- Delete condition 5(a) of rule C.6.4.1 and condition 8(a) of rule C.6.4.2.

Evaluation of recommended changes

94. Section 32AA of the RMA requires an evaluation of proposed changes to the Proposed Plan. I consider that the changes to the conditions will eliminate the uncertainties associated with them and make rules C.6.4.1 and C.6.4.2 capable of consistent interpretation and implementation without reference to council officers. In doing so, the amendments will reduce future regulatory costs but not at the expense of the environment. I consider that rules C.6.4.1 and C.6.4.2 contain sufficient safeguards to ensure that the adverse effects of stormwater discharges on receiving waters will be appropriately avoided or mitigated. The amendments are the most appropriate way to achieve the high level objectives in the RMA section 32 report for the Proposed Plan and the recommended new objectives for the plan.

Stormwater attenuation and flood prevention

Background

95. Rule C.6.4.1 and Rule C.6.4.2 contain conditions to prevent and minimise flooding caused by diversion and discharge of stormwater.
96. Condition 2 of C.6.4.1 states that the diversion and discharge of stormwater must not cause or increase flooding of land outside the area serviced by the storm network up to the 10 percent annual exceedance probability (AEP) or flooding of buildings outside of the area serviced by the network up to the once percent AEP. The Auckland Unitary Plan (operative in part) applies the same condition to stormwater discharges to all properties.
97. Condition 2 only applies to areas outside of the areas serviced by public stormwater networks. This is because the regional council considers that district councils are best placed through discussions with local communities to determine the level of investment in public stormwater network infrastructure for the purposes of avoiding or mitigating natural hazards. It is important to note that the three district councils have engineering standards that include stormwater attenuation standards for new development.

98. However, the regional council considered that it would be appropriate to include a condition in Rule C.6.4.1 for the purposes of ensuring that the diversion and discharge of stormwater from a public stormwater network does not result in increased flooding in areas outside of the area of benefit.
99. For context, it is useful to note that rule 21.1.2 of the Regional Water and Soil Plan permits the discharge of stormwater from stormwater collection systems (including public stormwater networks) subject to conditions including that:
- (d) The stormwater collection system is designed to cater for stormwater flows resulting from not less than a 1 in 5 year return period storm event [20% AEP] and a stabilised overland flow path is provided for to allow flows up to and including a 1 in 50 year storm event [2% AEP] in excess of the primary collection system.*
100. Rule C.6.4.2, which permits the diversion and discharge of stormwater from an impervious area, recontoured land or a stormwater collection system, provided the discharge is not from a public stormwater network or a high risk industrial or trade premises, contains a condition that states that the diversion or discharge must not cause or increase damage to another property. The condition was carried over from Rule 24.1.2 in the Regional Water and Soil Plan.

Submissions and analysis

101. Whangarei District Council raised the following concerns about condition 2 of the Rule C.6.4.1:

WDC's Asset Management Programme refers to the protection of habitable buildings (through minimum floor level requirements) and seeks to provide protection for the 5% AEP event. Providing 10% AEP flood immunity for land (rather the buildings) would be a major change to WDC's level of service for stormwater with significant financial implications to ratepayers. Concerns are raised that as currently drafted, this rule effectively requires that overland flow paths through properties that are currently protected by easements would require consents, or the minor (piped) system would have to be upgraded to provide 10% AEP capacity. Discharges to creeks, channels and drains would have to either be attenuated or secure consent to ensure the 10% AEP discharge does not encroach on property boundaries. Concerns are also raised as to how the network could comply with this requirement during a significant storm event. WDC seeks clarity on the purpose and intent of this rule, and highlights the need for this rule to align with the levels of flood protection service provided by District Councils.

102. I understand Whangarei District Council's concerns and note that Section 31 of the Resource Management Act 1991 provides district councils with the function of the control of any actual or potential effects of the use, development, or protection of land, including for the purpose of avoidance or mitigation natural hazards. The RMA defines a natural hazard to including flooding.
103. The Local Government Act 2002 states that the purpose of local government is:⁴²
- (a) to enable democratic local decision-making and action by, and on behalf of, communities; and*
 - (b) to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.*
104. The Local Government Act 2002 also states that the role of a local authority is to:⁴³
- (a) give effect, in relation to its district or region, to the purpose of local government stated in section 10; and*
 - (b) perform the duties, and exercise the rights, conferred on it by or under this Act and any other enactment.*
105. The provision of network infrastructure and the avoidance or mitigation of natural hazards are core services of district councils when performing their role.⁴⁴ Network infrastructure is defined in the Local Government Act 2002 as the provision of roads and other transport, water, wastewater, and stormwater collection and management.
106. It is clear to me that the regional and district councils have overlapping responsibilities with respect to the avoidance or mitigation of natural hazards. While the regional council is responsible for managing the diversion and discharge of stormwater, including for the management of significant risks from natural hazards⁴⁵, I consider that on balance the district councils should be responsible for determining the appropriate level of flood protection service. That is, condition 2 of rule C.6.4.1 should be deleted. However, please note that my colleague Stuart Savill (Consents Manager, Northland Regional Council) believes that the Proposed Plan should specify stormwater attenuation standards.

⁴² Local Government Act 2002, s10

⁴³ LGA, s11

⁴⁴ LGA, s11A

⁴⁵ RMA, s6(h)

107. On a related note, Haigh Workman Ltd submitted that condition 2 of rule C.6.4.2 “is very broad and does not provide the certainty required in a rule” and that it should be replaced with a condition similar to or the same as condition 2 of Rule C.6.4.1,⁴⁶ which I just addressed.
108. I agree with the company that the condition is uncertain and would be difficult to comply with or administer given that flooding in some areas is inevitable. As mentioned above, Far North, Whangarei and Kaipara district councils have environmental engineering standards that set out the processes and standards that must be followed and met whenever any new development is undertaken in accordance with their district plans.
109. The engineering standards cover requirements for stormwater drainage systems to minimise flooding, including design standards for attenuation of stormwater and primary and secondary conveyance systems. In my opinion, district councils are the most appropriate agencies for managing flood hazards risks associated with stormwater discharges.

Recommendation

110. I recommend that the Proposed Plan is amended by deleting condition 2 from rule C.6.4.1 and C.6.4.2.

Evaluation of recommended changes

111. Section 32AA of the RMA requires an evaluation of changes to the Proposed Plan. I consider that removing flood mitigation requirements from rules C.6.4.1 and C.6.4.2 will not increase flooding risks because district councils currently require primary and secondary stormwater conveyance systems to minimise risks to property. They are also responsible for provision of stormwater network infrastructure and the avoidance or mitigation of natural hazards.

⁴⁶ Haigh Workman Ltd. p.5

Appendix A - Response to other matters raised in submissions

The following table does not include the summary of submission points, analysis and recommendations made on the key matters in the main body of the report.

Provision	Summary of main submission points	Discussion	Recommendation
C.6.4.1 and C.6.4.2	Mikaera Miru and Tinopai RMU Ltd requested that a new condition is added to the rules that states that the activity must not occur within an area of significance to tangata whenua. I understand that they have sought this amendment so that tangata whenua can “apply tangata whenua tanga to” their areas of significance.	The submitters did not provide any evidence that stormwater discharges are adversely affecting an area of significance to tangata whenua.	I recommend that the amendment requested by Mikaera Miru and Tinopai RMU Ltd is not made to the Proposed Plan.
C.6.4.2	Northland Fish and Game submitted that rule C.6.4.2 should be amended so that stormwater discharges do not affect wetlands.	Northland Fish and Game did not provide any evidence that stormwater discharges are adversely affecting wetlands. I note that some wetlands are used for attenuating contaminants in stormwater (for example, constructed wetlands).	I recommend that the amendment requested by Northland Fish and Game is not made to the Proposed Plan.
C.6.4.2 and 6.4.3	Landcorp Farming stated that the definition of a stormwater collection system appears to include farm drainage systems and that the definition should be amended to exclude farm drains.	The plan contains rules for land drainage. To avoid any confusion, I consider that the definition of a stormwater collection system should be amended to exclude land drainage systems.	I recommend that the definition of a stormwater collection system should exclude land drainage systems.
C.6.4.3	Northland Fish and Game and the Royal Forest and Bird Protection Society consider that rule C.6.4.3 should be amended to a discretionary activity so that the council has the ability to decline an application for a	I consider that controlled activity rule is appropriate for managing stormwater discharges that are not permitted by rule C.6.4.1 and C.6.4.2 and which are not from a high risk industrial or trade premises.	I recommend that the amendment requested by Northland Fish and Game and the Royal Forest and Bird

Provision	Summary of main submission points	Discussion	Recommendation
	resource consent if effects cannot be avoided, remedied or mitigated.		Protection Society is not made to the Proposed Plan.
Definition of impervious area	Horticulture New Zealand submitted that the definition of an impervious area be amended to exclude artificial crop protection structures.	An impervious area is defined in the plan as an area with a surface that prevents or significantly retards the soakage of water into the ground. Horticulture New Zealand stated that that “Artificial crop protection structures are designed to protect crops from wind and hail but allow water through.” ⁴⁷ If this is the case, the structures do not need to be excluded from the definition.	I recommend that the amendment requested by Horticulture New Zealand is not made to the Proposed Plan.

⁴⁷ Horticulture New Zealand. p.20