



THE CATALYST GROUP
planning and environment

COMPLIANCE REVIEW LEVIN LANDFILL

COMPLIANCE ASSESSMENT 1, REV01

5 NOVEMBER 2020

USE OF THIS REPORT

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enquiries@thecatalystgroup.co.nz

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PREPARED BY:

Tess Drewitt, Senior Planner

REVIEWED BY:

Charlie Hopkins, Principal Planner

CONTRACT REPORT NO:

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PREPARED FOR:

Horowhenua District Council

p. +64 6 358 6300
e. enquiries@thecatalystgroup.co.nz
a. Level 3, 31 George Street,
PO Box 362, Palmerston North
www.thecatalystgroup.co.nz



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OVERVIEW

PURPOSE

This report sets out the findings of the inaugural external assessment of compliance with conditions of resource consents for the Levin Landfill. It has been completed by Tess Drewitt, Senior Planner – Resource Management with the assistance of Charlie Hopkins, Principal Planner. The deliverables associated with this contract are as follows:

1. Tabulate the conditions of consent.
2. Obtain documentation (including the complaints registers) from Horowhenua District Council (HDC), Horizons Regional Council (HRC), and council contractors, for review.
3. Undertake a site visit with a representative of HDC.
4. Produce a report for HDC and the Project Management Group (PMG).
5. Brief council and PMG as required.

This report has been prepared for the PMG in accordance with the Levin Landfill Agreement.

AN INDEPENDENT ASSESSMENT

The Catalyst Group has had long-term associations with the Levin Landfill project. Greg Carlyon, Managing Director/Practice Leader - Planning at The Catalyst Group, is PMG manager for the Levin Landfill Agreement. To avoid any conflicts of interest, the exercise of this contract has been undertaken independent of Greg Carlyon with a direct relationship between Tess Drewitt and Lisa Slade of HDC. The parties agree that any actual or perceived conflicts of interest in relation to the role held by Greg Carlyon is appropriately addressed and recognised through the exercise of the contract and the oversight provided by HDC and the PMG at large.

THE LANDFILL

A landfill has been operating in the present location since at least the mid-1970s. In 1997, HDC obtained resource consent from HRC to establish a new landfill at the same site. The decision was subsequently appealed, and a consent order issued in 2002 approved the general nature of the current activity. These conditions were reviewed in 2008, and a decision on the conditions was notified in 2010.

On 30 October 2015, HRC issued a Notice of Review of Levin Landfill's discharge permits, as described in Table 1, pursuant to section 128 of the Resource Management Act 1991 (RMA). The Hearing Commissioners released their decision on the review on 18 November 2016. The decision was subsequently appealed to the Environment Court, who made a consent order in December 2019. The revised conditions are, therefore, now in effect.

Discharge permit 106798 authorises HDC to discharge contaminants to air associated with the operation of the gas flare at the landfill. This permit was granted in June 2014 and subsequently amended in July 2015. Given this permit is relatively new, it did not form part of the 2015 review of consent conditions for the remaining discharge permits.

The Levin Landfill is administered by HDC and operated by EnviroWaste Limited.

SCOPE OF ASSESSMENT

Table 1: lists the resource consents that are covered by this compliance assessment.

Table 1: Resource consents

No.	Activity
6009	Discharge of solid waste onto land.
6010	Discharge of landfill leachate onto land.
6011	Discharge of landfill gas, odour and dust to air.
7289	Discharge of liquid waste onto and into land.
102259	Discharge of stormwater to land and potentially to groundwater via soakage.

This compliance assessment does not include an assessment of compliance with discharge permit 106798 relating to the flare as this permit is not within the scope of the Levin Landfill Agreement.

This assessment is confined to assessing compliance with conditions of the consents listed in Table 1. It does not extend to matters outside consents including:

- Whether the landfill operation is consistent with any other National Environmental Standard, or district and regional plan requirements (e.g. compliance with permitted activity standards).
- Any related compliance processes, including the use of enforcement tools.
- The appropriateness of any conditions of consent.
- Matters pertaining to the relationship between the Council and any other party except where requirements are explicitly set out in the consents listed in Table 1.

DOCUMENTS REVIEWED

The following material has been reviewed:

- Resource consents, including:
 - All conditions of consents listed in Table 1
 - HRC's decision on the review of conditions, 2016 (the "2016 decisions version")
 - Environment Court Consents Order, December 2019 (the "2019 consent order")
- Solid Waste Newsletter - June 2020
- HDC complaints register, 2019/20
- HDC annual and quarterly reporting on discharge permits from 2017/18 - 2019/20
- HDC gas flare annual report, 2019/20
- HRC compliance reports from 2017/18 - 2018/19
- Levin Landfill Agreement, 2019
- Levin Landfill Management Plan, 2010
- Neighbourhood Liaison Group (NLG) meeting minutes from August 2019 - July 2020.
- Various documents prepared for the PMG

- Correspondence sent to HRC from HDC dated 4 September 2020

A site visit was also undertaken with representatives from HDC and HRC in September 2020.

LIMITATIONS AND ASSUMPTIONS

This assessment has the following limitations and assumptions:

- It is based on information that is publicly available or has been sourced from HDC. Information has not been obtained from other stakeholders.
- It has been undertaken based on the timeframe determined by the PMG and Levin Landfill Agreement. Only documents available during this timeframe have been relied on. As a result, this assessment has not included a review of the updated Levin Landfill Management Plan or the Odour Management Plan (OMP), which are still in draft form.
- A copy of HRC's complaints log for 2019/20 was unable to be obtained for this assessment.
- Where the assessment is based on information provided by HDC at the site visit, via email or in quarterly on annual reporting, or within HRC's annual compliance reports, it assumes that this information is true and correct. Unless otherwise stated, no further steps have been taken to verify this information.
- It is based on a strict interpretation of the conditions of consent, assuming they are accurate and correct.

It is further noted that, while HDC publishes several key documents on its Levin Landfill website, the website does not present a complete picture of landfill consenting and compliance. In particular:

- The website includes a copy of the 2010 consent conditions but does not include the 2016 decisions version or the 2019 consents order.
- The website includes a copy of HRC's 2017/18 compliance report but not include the more recent 2018/19 compliance report.
- The website does not include any of HDC's annual or quarterly reports.

Furthermore, through this review, it was difficult to obtain a copy of the amalgamated consent conditions (being the 2016 decisions version combined with the 2019 consents order). In the process of amalgamation, some inconsistencies in consent conditions and numbering were identified, highlighting that there is potential for confusion over the final set of conditions. Additionally, some conditions require compliance at a date prior to the final set of conditions coming into effect. It is therefore recommended an amalgamated set of conditions be prepared (by either HRC and/or HDC) for circulation and publication. Any consistency or administrative errors may also need to be rectified.

COMPLIANCE RATINGS

The assessment provides a compliance rating for each condition of consent as well as an overall rating for each consent. Table 2 provides a description of the compliance ratings used in this assessment.

Table 2: Compliance ratings

Compliance rating	Description
Compliant	Fully compliant with the requirements of the condition.
Non-compliant	Non-compliant with one or more requirements of the condition.
Not assessed	Not enough information is available to assess compliance with one or more requirements of the condition.
Not applicable	The condition is not currently applicable (e.g. it has already been complied with, or compliance is not required during the timeframe of this assessment).

COMPLIANCE ASSESSMENT

SUMMARY OF FINDINGS

Table 3 presents the overall findings of this compliance assessment. A full assessment of compliance with each condition is provided in Appendix A.

Table 3: Summary of compliance assessment findings

No.	Activity	Compliance assessment
6009	Discharge of solid waste onto land.	Non-compliant
6010	Discharge of landfill leachate onto land.	Non-compliant
6011	Discharge of landfill gas, odour and dust to air.	Non-compliant
7289	Discharge of liquid waste onto and into land.	Compliant
102259	Discharge of stormwater to land and potentially to groundwater via soakage.	Compliant

Table 4 outlines key areas of non-compliance with discharge permits 6009, 6010 and 6011.

Table 4: Key areas of non-compliance

No.	Condition assessed as non-compliant	High level reasons for non-compliance
6009	14	The LLMP was not updated to the satisfaction of HRC by November 2019, as required by this condition. Full assessment of the updated LLMP against condition 14 has not been undertaken as this document was not finalised during the assessment period.
	33	An independent facilitator for the NLG was appointed on 30 July 2020, which is beyond the timeframe required by condition 33.
6010	3 - Table A	Deep aquifer wells - 2019/20 HDC annual report does not include results for new monitoring site Xd1
	3 - Table B	Shallow aquifer wells - 2019/20 HDC annual report does not include results for new monitoring sites Xs1 and Xs2

	3 - Table D	Monitoring point locations - Map in 2019/20 HDC annual report does not include new monitoring sites Xd1, Xs1 and Xs2
	3U	HDC has not yet invited an NLG nominee to observe sampling rounds.
	11(aa)	The 2019/20 HDC annual report records exceedances of ANZECC AE 95% trigger values, however it does not provide comment on the significance of the exceedances and whether remedial action is required.
	12	The 2019/20 annual report identifies two exceedances but does not comment on the significance of exceedance and whether It can be attributed to landfill leachate.
	15	HDC not complying with several conditions relating to the unlined landfill, including evidence of ponding. HDC is also not reporting on the landfill slope or depth of capped cover.
6011	4	HDC is not complying with several conditions relating to the Odour Management Plan (which had not been finalised during the assessment period), monthly methane surface monitoring, biofilter operation and maintenance, and data collection.
	7	HDC complaints log does it Include the level of detail required for compliance.
	7	HDC is not complying with several consent conditions meaning it is not taking all practical steps to avoid, remedy or mitigate odour effects.
	8A	HDC had not nominated a liaison person and advised HRC accordingly within the period of this assessment.
	8D	HDC is not undertaking monthly odour investigations beyond the site boundary.
	8F	The 2019/20 annual report for consent 6011 does not include the complaints log, which is considered to fall within scope of condition 8F reporting requirements.

Table 5 outlines the conditions that have not been assessed due to lack of information as well as the information that HDC could provide to determine compliance. In general, Table 5 outlines conditions that HDC is not required to routinely report on in quarterly and annual reports. In many instances, HRC has already requested this information as part of annual compliance assessments but HDC has not been forthcoming.

Table 5: Summary of further information requirements to assess compliance

No.	Condition	Information required to assess compliance
6009	6	HDC documented process for recording incidences of noxious weed control as well as measures taken within 2019/20 to confirm compliance with this condition.
	15-22	Details regarding the method for disposal of offal and dead animal waste to confirm compliance with these conditions.
	23-24	Details regarding the disposal of biosolids and sludges, in particular information to confirm the sludge does not contain free liquids and that disposal practices are in accordance with the 1992 Ministry of Health Guidelines.
6011	8B	Details confirming 2019/20 complaints were investigated within 24hrs of being received.
102259	4	Details confirming all stormwater structures have been designed and constructed to best engineering practices and maintained to a safe and serviceable standard.

	5	Confirmation that the stormwater system is being inspected once a day.
	6	Confirmation that the stormwater soakage ponds are inspected and maintained regularly.

COMMENTS ON FINDINGS

HDC is in the process of incorporating the amended conditions into its quarterly and annual monitoring programme. The April 2020 monitoring round incorporated new monitoring locations and parameters. However, further amendments are required to ensure compliance with the resource consent conditions. Specifically, HDC is not yet monitoring sites Zs1, Xs2 or Xd1. HDC has advised that bores have recently been installed at these sites and monitoring will commence in the next monitoring round. Additionally, several conditions require HDC's reporting to compare monitoring results against specific values and comment on the significance of any exceedances. While HDC is reporting on exceedances, it is not always commenting on the significance of these exceedances, making it difficult to establish whether remedial steps are required.

HDC has yet to finalise the updated Levin Landfill Management Plan (LLMP) and Odour Management Plan (OMP), which are required under the revised conditions of consent. The LMP was required to be updated with approval from HRC by November 2019.¹ The OMP was required to be prepared and submitted to HRC within 2 months of the commencement of the revised conditions.² A draft of both documents was submitted to HRC in February 2020, however neither document has been approved. Compliance with several conditions in relation to these documents has therefore unable to be assessed.

HDC is not currently complying with several conditions of discharge permit 6011 in relation to methane monitoring and monitoring/maintenance of the bio-filter. I understand the procedure in the OMP will give effect to these requirements. At the site visit, the biofilter did not appear to be in operation. The pump had been disconnected and HDC indicated the biofilter had become redundant given the flare is now managing landfill odour. If HDC is proposing to disestablish the biofilter on a permanent basis, it will continue to be non-compliant with several conditions of discharge permit 6011. HDC will therefore need to provide evidence supporting its disestablishment and apply to HRC to amend several conditions of discharge permit 6011. Similarly, HDC is not currently undertaking odour monitoring beyond the boundary, as required by discharge permit 6011. HDC has advised that it does not consider this monitoring to be necessary. If HDC is not intending to undertake this monitoring, it must seek to amend relevant consent conditions through the appropriate channels.

HRC has previously requested various documentation from HDC to confirm compliance with conditions, particularly in relation to any liquid and hazard waste, and biosolids and sludges accepted at the landfill (as outlined in Table 5). HDC has since provided much of this information to HRC, including the special waste log, to assist with compliance.

Finally, there is concern about the accessibility of information in relation to these consents. As mentioned, HDC's website includes a now out of date set of conditions for the landfill. HDC is also not including the complaints log within the annual reporting for consents 6009, 6010, 6011, 7289 and 102259, and HDC's complaints log has not been reconciled with HRC's (as further discussed below).

¹ Discharge permit 6009, Condition 14.

² Discharge permit 6011, Condition 4(m)

COMPLAINTS

Both HDC and the HRC maintain a complaints register for Levin Landfill.

HRC publishes its complaints register as part of annual compliance reporting. In the 2018/19 annual report, HRC reported that 15 complaints were received between 13 July 2018 and 18 December 2019; 4 sent by email after the fact, and 11 phone calls to the Pollution Hotline. Of the 11 complaints received, HRC staff undertook a site visit 4 times. None of these investigations resulted in objectional odour from Levin Landfill being detected by HRC enforcement officers.

HRC has not yet prepared its compliance report for 2019/20. A copy of the complaints log for 2019/20 was requested as part of this assessment but was not received within the timeframe of preparing this report. NLG meeting minutes from 30 July 2020 indicate there were 20 odour events filed between 21 February and 19 June 2020, and that most of these events occurred during the COVID-19 Level 4 'Lockdown' (March-May 2020), at a time when HRC representatives were unable to conduct a site visit. I understand there were some issues with the flare during this period.

HDC's complaints register for 2019/20 shows 5 complaints were received by HDC during the period February to June 2020. For 4 of these complaints, HDC established that the flare was either not operating or running intermittently. HDC's compliance records do not demonstrate whether an investigation resulted in an objectionable odour being detected.

I understand from discussions with HDC and HRC that complaints are generally directed to HRC's pollution hotline as opposed to the HDC compliance team. HRC will then attend a site visit and typically inform HDC. However, this review indicates that HDC only maintains a record of complaints it receives directly, hence the likely inconsistency between the two complaints registers.

APPENDIX A: LEVIN LANDFILL – CONSENT CONDITION REVIEW

Consent 6009 – Discharge solid waste to land

Cond. #	Consent condition	TD Comments	Compliance status
1	<p>This permit does not authorise the disposal of liquid waste to land at the Levin Landfill. Liquid waste is defined as: Septic tank waste, grease trap waste, sewage and any material that contains free liquids. The presence of free liquids may be determined by either of the following methods, whichever is most practicable at the time:</p> <p>(i) The “Paint Filter Test”; or (ii) Material which may be loaded, transported and deposited at the landfill without the risk of free liquid seeping from the material, and without the risk of having the deposited material flow under gravity down any slope on the landfill shall be deemed to not contain free liquids.</p>	<p>The current Levin Landfill Management Plan (LLMP) (2010) defines liquid waste in accordance with this condition. The LLMP requires liquid waste to be accompanied by an Application for Disposal of Special Waste (Section 6.3).</p> <p>I have reviewed the 2017/18 and 2018/19 compliance assessments prepared by HRC. HRC has previously assessed HDC as complying with this condition on the basis that no hazardous waste logs have been provided with annual reporting, indicating that HDC is not disposing liquid waste at the Landfill. HRC has requested copies of waste logs to verify compliance with this condition but HDC has not been forthcoming. I note that Condition 8 requires the hazardous waste log to be provided to HRC as part of annual reporting.</p> <p>The 2019/20 annual report is silent on liquid waste. At the site visit, HDC confirmed that it does not dispose of liquid waste at the landfill (beyond that authorised by discharge permit 7289). My assessment is therefore based on this advice. I recommend a copy of the hazardous waste log be supplied in future annual reporting to confirm compliance with this condition.</p>	Compliant
	General Conditions – Discharge Solid Waste to Land		
2	<p>The Permit Holder shall take all practicable measures to avoid the discharge of waste from within the landfill to surrounding land. To this end, the Permit Holder shall ensure:</p>	<p>At the site visit, HDC confirmed that exposed refuse on the tipping face is limited and the refuse is covered at the end of each day using a temporary sand capping.</p>	Compliant

Cond. #	Consent condition	TD Comments	Compliance status
	(a) The amount of refuse exposed at any one time is confined in dimension to 800 square metres of tipping face; and (b) Exposed refuse is covered at the end of each day that refuse is received at the landfill.		
3	If refuse is discharged from within the active landfill areas to land outside the legal boundary of the landfill property, the Permit Holder shall ensure that such waste is cleared and removed to the landfill as soon as practicable.	At the site visit, I did not observe any refuse outside the legal boundary of the site.	Compliant.
4	The Permit Holder will monitor the landfill at least once every two weeks for the build-up of litter, paper and other deposits outside the active landfilling areas, and remove such material as required.	The 2017/18 and 2018/19 HRC compliance reports note that weekly inspections are required by the LLMP. HRC has previously assessed HDC as complying with this condition. The 2019/20 HDC annual report confirms weekly site walkovers are occurring and outlines the findings of site walkover records. I have therefore assessed compliance with this condition. I further note at the site visit I observed some refuse outside the active landfill area along the fence line. The refuse appeared to have been there for some time. HDC advised that the fences will be raised to contain refuse.	Compliant
5	The Permit Holder shall regularly inspect for the presence of vermin, birds and other pests take appropriate measures to control them.	HRC has previously assessed HDC as complying with this condition. Section 15 of the 2019/20 HDC annual report outlines vermin and pest control measures undertaken during the period. The report states: "Shooting of feral cats and seagulls is carried out regularly. Bait stations are used, and the operator will be aware of the need to replace baits if there is more increased vermin activity". I have assessed compliance with this condition based on the information provided in the annual report.	Compliant
6	The Permit Holder shall regularly inspect the landfill for noxious weeds, and take appropriate measures to control those noxious weeds	The 2018/19 compliance report did not assess compliance with this condition. HRC recommended the LLMP document a process for recording incidences of noxious weed control to assess compliance with this condition. The LLMP requires HDC to "inspect the landfill footprint regularly for noxious weeds and shall take appropriate measures to control them".	Not assessed.

Cond. #	Consent condition	TD Comments	Compliance status
		The consent does not include a condition requiring HDC to report on compliance with this condition. HDC has confirmed that noxious weed control is taking place, however I have no further details regarding the measures that are being taken to ensure compliance with this condition. I understand the updated LLMP will document a process for noxious weed control.	
	Hazardous material		
7	The Permit Holder shall not allow the disposal of waste of an explosive, flammable, reactive, toxic, corrosive or infectious nature, to an extent that the waste poses a present or future threat to the environment or the health and the safety of people.	The LLMP documents procedure for dealing with hazardous waste (section 6.4). All loads of hazardous waste must be accompanied by a copy of the hazardous waste permit issued specifically for that type of waste and individual generator. The 2019/20 annual report states that no such logs were received and HDC confirmed at the site visit that it is not disposing of hazardous waste.	Compliant
8	The Permit Holder shall develop and implement a procedure for the landfill operator, such that potentially hazardous material, as listed in Annex 1 attached to and forming part of this permit, will not be accepted for disposal at the Levin landfill without specific authorization. The Operations Manager of the Horowhenua District Council, or some other designated person, is able at their discretion to accept quantities of such wastes. The waste shall be accompanied by a Hazardous Waste Manifest, as listed in Annex 1, which will form part of the permanent record and shall be reported by the Regional Council by 30 September each year for the term of this Permit.	<p>The LLMP specifies a procedure for disposing of hazardous waste, which includes the completion of a hazardous waste log. The past three annual reports (2017-2020) state that no loads of hazardous waste were received during these periods. On 4 September 2020, HDC advised HRC as follows:</p> <p>“Hazardous waste is not currently accepted at the Levin Landfill. We have no records of hazardous waste being accepted or permits being applied for during this period of time. We intend to request that the wording in the Landfill Management Plan (currently in draft form) be updated to reflect that hazardous waste is not currently being accepted.”</p> <p>While the LLMP currently specifies a procedure for accepting hazardous waste hazardous waste, based on this advice I am of the understanding that hazardous waste as listed in Annex 1 is not being accepted. This assessment could be confirmed by reviewing a copy of the Hazardous Waste Manifest.</p>	Compliant

Cond. #	Consent condition	TD Comments	Compliance status
9	The Permit Holder shall maintain a secure facility for any small quantities of hazardous waste, pending a decision on treatment, disposal or transfer to another facility.	Based on the advice from HDC that the landfill does not accept hazardous waste, this condition is not applicable to this review.	Not applicable
10	Hazardous waste stored at the facility described in Condition 9 shall be stored in a sealed and bunded area to avoid adverse effects from spills.	Based on the advice from HDC that the landfill does not accept hazardous waste, this condition is not applicable to this review.	Not applicable
11	Any hazardous waste accepted for disposal shall be disposed within an adequate volume of mature refuse, in accordance with Centre for Advanced Engineering's Landfill Guidelines (2000).	Based on the advice from HDC that the landfill does not accept hazardous waste, this condition is not applicable to this review..	Not applicable
	Monitoring and Reporting		
	Specific Conditions – Discharge Solid Waste to Land at Existing Landfill		
12	No solid waste shall be disposed to the existing landfill, after two years from the commencement of this consent.	I understand that the existing landfill (also described as the Old Closed Landfill or Stage 1) has final capping in place, and that no solid waste is being sent to this landfill. I observed final capping at the site visit.	Compliant
13	All new fill should be placed on top of at least 2 metres of existing material in the existing landfill.	As the existing landfill is already capped, this condition is no longer applicable.	Not applicable.
14	The Permit Holder shall update the Landfill Management Plan in respect of the operations on the lined landfill to the satisfaction of the Environmental Protection Manager at the Regional Council before November 2019. The Landfill Management Plan shall include, but not be limited to: (a) The specific conditions contained herein, related to the operation, management and monitoring of the landfill. (b) A description of the development and maintenance of the landfill. (c) A description of how the consent will be exercised in a manner to ensure compliance with the consent and the	The 2017/18 and 2018/19 Regional Council compliance reports assess full compliance with this condition. The LLMP was finalised in 2010 and was considered to address all required matters. However, Condition 14 was amended as part of the December 2019 Consent Order. The condition requires the LLMP to be updated to the satisfaction of HRC by November 2019. I understand a draft copy of the LLMP was provided to HRC in February 2020, however a final copy was not available at the time of this assessment. HDC is therefore not complying with the requirement to finalise by November 2019. As a copy of the updated LLMP is yet to be finalised, I have not been able to assess compliance with the remaining conditions.	Non-compliant

Cond. #	Consent condition	TD Comments	Compliance status
	<p>conditions thereof and the Resource Management Act 1991.</p> <p>d. A description of how the consent will be exercised to minimise adverse effects on the environment.</p> <p>e. A description of the hazardous waste acceptance criteria, including the criteria set out. f. The emergency procedures to be followed in the event of natural emergencies and hazardous waste spills.</p> <p>g. The methods of controlling dust and odour emissions including the criteria for assessing when, and how regularly, roadways and the landfill are dampened by water or otherwise.</p> <p>h. Details of measures to avoid nuisance effects on adjacent properties i.e. birds and vermin, as a result of landfill activities.</p> <p>i. Operational, intermediate and final capping requirements.</p> <p>j. Closure and aftercare.</p> <p>k. Procedure to update the management plan, in light of changing circumstances, to continue compliance with Conditions of this Permit.</p> <p>l. A screen planting implementation description.</p> <p>m. The feasibility of carrying out green waste composting operations on top of the closed landfill shall be assessed. Where it is deemed to be feasible, the composting operations shall be incorporated into the Closed Landfill Aftercare Management Plan.</p> <p>The Permit holder shall prepare a Closed Landfill Aftercare Management Plan in respect of the closed unlined landfill (Area "A") to the satisfaction of the</p>		

Cond. #	Consent condition	TD Comments	Compliance status
	<p>Environmental Protection Manager at the Regional Council within six months of the completion of the review of the consent conditions. The Closed Landfill Aftercare Management Plan shall include, but not be limited to those aspects that are detailed in Appendix E of the MfE publication entitled 'A guide for the Management of Closing and Closed Landfills in New Zealand (May 2001)'. The Closed Landfill Aftercare Management Plan shall require at the least:</p> <ul style="list-style-type: none"> n. Grading to a final slope on the landfill faces and caps of between 1V:3H (1 in 3) and 1V:40H (1 in 40); o. Ensuring the final landfill surface is sloped to promote run-off toward the outside of the landfill footprint and prevent surface water ponding on the landfill cap; p. Ensuring the landfill cap incorporates a layer at least 700 mm thick. All material added to the existing cap to bring the thickness up to 700 mm, or for future cap maintenance purposes, is to have a permeability of not greater than 1×10^{-7} m/s. q. Establishing and maintaining a grass or tussock vegetation cover on the capped landfill consistent with an ongoing ability to monitor and maintain the integrity of the landfill cap as per Condition 15 (d) of Consent 6010. r. Monitoring the landfill cover on an annual basis to identify areas of differential settlement slope stability issues, erosion and changing vegetation patterns, including a topographic survey to ensure Conditions 14(n) to (q) continue to be met; <p>The Permit holder shall submit an annual report to the</p>		

Cond. #	Consent condition	TD Comments	Compliance status
	Regional Council by 30 September each year for the duration of this Permit documenting the condition of the unlined landfill and any maintenance carried out during the previous year. The annual report shall address but not be limited to those aspects listed in Conditions 14(n) to 14(r) above. The annual report shall include a plan of the unlined landfill specifically documenting the shape of the closed landfill and any changes during the previous year related to Condition 14(q) [The annual report can be written in conjunction with the annual report required as part of Condition 15 (f) for Consent Number 6010]		
	Specific Conditions – Discharge of Offal and Dead Animals to Land		
15	Offal waste shall be immediately buried in depth of 0.6 metres upon delivery.	HRC has previously assessed HDC as complying with this condition on the basis that section 6.8 of the LLMP details a procedure for detailing with office waste and dead animals. HRC has previously requested information in annual reporting to confirm compliance with this condition, however HDC has not been forthcoming. The consent does not include a condition requiring HDC to report on compliance with this condition. HDC has advised that the process in the LLMP has been implemented, however I have no further evidence to assess compliance.	Not assessed.
16	All animals disposed of as diseased animals under the Animal Act 1967 shall be immediately buried to a depth of at least 1 metre	See assessment against condition 15.	Not assessed.
17	Pits for the burial of offal and animals shall be excavated in mature refuse and shall be away from the public tipping area.	See assessment against condition 15.	Not assessed.
18	Pits for the burial of offal and animals shall be at least 10 metres from any landfill batter slope.	See assessment against condition 15.	Not assessed.
19	Pits for the burial of offal and animals shall not exceed a	See assessment against condition 15.	Not assessed.

Cond. #	Consent condition	TD Comments	Compliance status
	maximum size of two metres by 15 metres		
20	The immediate cover material of all offal and animals shall be a minimum depth of at least 100 millimetres unless these conditions specify otherwise. Pits shall be filled to within one metre of the prior refuse surface level and reinstated with appropriate compaction with previously removed refuse or other suitable material.	See assessment against condition 15.	Not assessed.
21	Pits for the burial of offal and animals shall be demarcated as such and shall be fenced off.	See assessment against condition 15.	Not assessed.
22	Any other malodorous wastes not already covered specifically by these conditions shall be covered immediately upon disposal.	See assessment against condition 15.	Not assessed.
	Specific Conditions – Discharge of Biosolids and Sludges to Land		
23	Biosolids, sludges and similar materials which do not contain free liquids may be accepted at the landfill as solid waste. This shall include dewatered municipal wastewater treatment plant solids, dewatered processing plant solids and dewatered agricultural wastes. The presence of free liquids may be determined by either of the following methods, whichever is most practicable at the time: i. The “Paint Filter Test”; or ii. Material which may be loaded, transported and deposited at the landfill without the risk of free liquids seeping from the material, and without the risk of having the deposited material flow under gravity down any slope on the landfill shall be deemed to not contain free liquids.	Section 6.9 of the LLMP specifies a procedure for dealing with biosolids and sludges. A special waste permit is required for the disposal of these items. I understand HDC is accepting sludge from the Levin WWTP in accordance with a Special Waste Permit. However I have no information to confirm that the sludge does not contain free liquids, as required to confirm compliance with this condition.	Not assessed.
24	If not co-disposed of within the landfill, the biosolids, sludges	This is reiterated in section 6.9 of the LMP. Again, the consent does not	Not assessed

Cond. #	Consent condition	TD Comments	Compliance status
	and similar materials shall be applied to the landfill surface in accordance with the 1992 Ministry of Health Guidelines for the “safe use of sewage effluent and sewage sludge on land”.	include a condition requiring HDC to report on compliance with this condition. I have therefore not been able to assess compliance with this condition.	
25	The Permit Holder shall maintain records of: <ul style="list-style-type: none"> a. The type of waste received; b. The volume of waste received; c. Source of waste; and d. The location in which the material was placed. 	The LLMP states that HDC maintains a register for biosolids and sludges. The register is not provided as part of annual reporting, however it was submitted to HRC on 4 September 2020.	Compliant
26	Disposal of site-generated sludge from cesspits, leachate ponds or other site activities that contain free liquids is acceptable to facilitate site operation, provided this does not adversely affect landfill stability or face operations.	HDC confirmed at the site visit that all leachate generated on site is being pumped to the WWTP.	Compliant
	Specific Conditions – Discharge Solid Waste to Land at Lined Landfill		
27	Design specifications and a set of construction drawings for the lined landfill shall be forwarded to the Regional Council (Environmental Protection Manager) for certification, to ensure compliance with the conditions of this consent and all related consents, at least three months prior to the intended construction of the lined landfill begins.	I understand compliance with this condition was confirmed by HRC on 1 July 2013. Further assessment is therefore not required until additional cells are developed.	Compliant
28	The Permit Holder shall construct the liner system for all new cells to include the following elements: <ul style="list-style-type: none"> a. A smooth base constructed from insitu materials the level of which is above the winter groundwater level. b. A geosynthetic clay liner (GCL) a minimum of 5mm thick, with a coefficient of permeability not exceeding 3×10^{-11} m/s. The Permit Holder shall supply documentation from the manufacturer demonstrating quality control procedures ensuring that 95 % of the GCL meets the 	Previously assessed by HRC as compliant for the current cell.	Compliant

Cond. #	Consent condition	TD Comments	Compliance status
	<p>coefficient of permeability standard required.</p> <p>c. A synthetic flexible membrane (high density polyethylene, HDPE with a minimum thickness of 1.5 mm, or polypropylene, PP with a minimum thickness of 1.0 mm).</p> <p>d. A protective layer of sand 100 mm thick on the base overlain by a 300 mm thick gravel drainage layer, and on the side slopes a confining layer of gravel 300 mm thick, lain on top of a protective geo fabric and geo-grid, appropriately designed for the site conditions.</p> <p>e. Provision for the collection of leachate from the liner and reticulating to a treatment system outside the landfill area.</p> <p>f. An alternative to any of the above as agreed from time to time, in writing, between the Permit Holder and the consent authority.</p>		
29	Deleted		
30	<p>If any ancient human remains or artefacts are discovered during any earthworks activity associated with the construction and maintenance of the landfill, then works shall cease, and the Consent Holder shall immediately inform the Environmental Protection Manager of the Regional Council and relevant tangata whenua. Further work in the vicinity of the find shall be suspended while relevant tangata whenua carry out their procedures for the removal of taonga. The Environmental Protection Manager of the Regional Council will inform the Consent Holder when work can recommence in the vicinity of the find.</p>	<p>The annual reporting from the past three years does not report on the discovery of any ancient human remains or artefacts. This condition is therefore not applicable to this review.</p>	Not applicable.
31	<p>The Regional Council may initiate a review of Conditions 2, 8, 14(a) to (m), 28, 32, 33 and 34 of this permit during the month</p>	<p>Not applicable – Next review due October 2024.</p>	Not applicable.

Cond. #	Consent condition	TD Comments	Compliance status
	<p>of October in 2024, 2029 and 2034. The reviews shall be for the purpose of:</p> <ul style="list-style-type: none"> a. Assessing the adequacy of the management plan outlined in Conditions 14 and 29 of this consent; and/or b. Assessing the effectiveness of Conditions 2, 8 and 28 of this consent. c. Assessing the effectiveness of the NLG outlined in Conditions 32, 33 and 34. <p>In avoiding, remedying or mitigating adverse effects on the environment surrounding the Levin Landfill, the review of conditions shall allow for:</p> <ul style="list-style-type: none"> d. Modification of the management plan outlined in Conditions 14 and 29 of this consent; e. Deletion or changes to Conditions 2, 8 and 28 of this consent; f. Deletion or changes to Conditions 32, 33, and 34; and g. Addition of new conditions as necessary. h. An alternative to any of the above as agreed from time to time, in writing, between the Permit Holder and the consent authority. <p>To avoid, remedy or mitigate adverse effects on the environment surrounding the Levin Landfill.</p>		
	<p>Specific Conditions – Neighbourhood Liaison Group (hereinafter “NLG”)</p>		
32	<p>The Permit Holder shall establish an NLG. Members of the NLG will suggest available and suitably qualified nominees for an independent facilitator in advance of or at the first meeting. The list of nominees must be limited to six nominees. The Permit Holder will confirm that the list of</p>	<p>This condition was amended as part of the December 2019 Consent Order to include new members of the NLG. I have viewed NLG meeting minutes from 27 August 2019 and 30 July 2020 (draft), which suggest all listed parties are eligible for NLG representation.</p>	Compliant

Cond. #	Consent condition	TD Comments	Compliance status
	<p>nominees contains suitably qualified people for the facilitator role. The NLG will appoint an independent facilitator from the list of nominees confirmed by the permit holder at that same meeting. In the event consensus cannot be reached an independent facilitator will be appointed from the list of nominees by a majority vote of community NLG representatives as identified in (a) to (d) and (g).</p> <p>The following parties shall be eligible to be members of the NLG with one representative each at NLG meetings:</p> <ol style="list-style-type: none"> a. the Lake Horowhenua Trustees; b. Mr Charles Rudd; c. Ngati Pareraukawa; d. Each of the owners and occupiers of those properties adjoining the Levin Landfill property described as A through to N on Drawing 2181 attached; e. Horowhenua District Council; f. the Manawatu-Wanganui Regional Council; and g Two representatives of the owners and occupiers of the properties affected by the landfill. 		
33	<p>The Permit Holder shall:</p> <ol style="list-style-type: none"> a. Convene one meeting by the end of June 2019 to appoint an independent facilitator in accordance with clause 32. b. Convene a further meeting within two months of the appointment of the independent facilitator. c. Thereafter convene a meeting at intervals of six months for the following 18 months; and d. Thereafter convene a meeting at intervals of no more than twelve months unless all NLG representatives agree that changes to the intervals are acceptable. 	<p>An independent facilitator for NLG meetings was confirmed on 30 July 2020 following the procedure outlined in Condition 33. I note that this is not within the timeframe specified in the condition, which is why I have assessed HDC as being non-compliant with this condition.</p> <p>Pursuant to this condition, subsequent meetings shall be convened as follows:</p> <ul style="list-style-type: none"> • 30 September 2020 (I understand this has been scheduled to recommence on 17 November) • 30 March 2021 • 30 September 2021 	Non-compliant

Cond. #	Consent condition	TD Comments	Compliance status
		<ul style="list-style-type: none"> 30 March 2022 Further intervals at no more than 12 months. 	
34	The purpose of the NLG is to create a forum in which the Permit Holder, Horizons Regional Council and community can engage for the purpose of reviewing and sharing perspectives on monitoring results, and where appropriate, discuss strategies for maintaining or improving the landfill operation, consistent with the consent conditions.	This condition was included as part of the December 2019 consent order. From the NLG meeting minutes I have viewed it appears this condition is in general being complied with. I note that an HRC representative did not attend the 27 August 2019 NLG meeting, and that this was concerning to some members. However, this was prior to Condition 34 coming into effect. An HRC representative has since attended the 30 July 2020 meeting.	Compliant
35	<p>The Permit Holder shall:</p> <ol style="list-style-type: none"> supply notes of each meeting to the Group Members Forward an annual report to members and to the Regional Council and the District Council Forward any other information to the Group Members, in accordance with the conditions of the consents; and The Permit Holder shall ensure the NLG members are: <ol style="list-style-type: none"> Able to advise the Permit Holder of potential members of the NLG, such new members to be at the agreement of the Permit Holder. Given the opportunity to inspect the operations on site on the occasion of NLG meetings, and/or on such other occasions as are agreed by the Permit Holder and Landfill Operator. The Permit Holder and the Landfill Operator shall not unreasonably withhold such agreement. The Permit Holder shall grant the NLG members access to the landfill property, during working hours, subject to relevant regulations, including health and safety regulations and the Management Plan. Consulted by the Permit Holder as a group prior to 	<ol style="list-style-type: none"> Compliant – Minutes from NLG meetings are saved on the Levin Landfill website. Compliant – Reporting is sent to the NGL through the Solid Waste Newsletter. I understand HDC has previously been slow to provide annual reports to the NLG. HDC has confirmed that the 2019/20 annual report was supplied to the NLG through the quarterly Solid Waste Newsletter on 30 September 2020. Compliant – In addition to the monitoring reports, HDC has also published some additional documents on its website, including: <ul style="list-style-type: none"> Levin Landfill Summary of Leachate Options Assessment Levin Landfill Closure Review Technical & Financial Considerations Levin Landfill Social Impact Assessment Levin Landfill Agreement Compliance Report 2017/18. <p>As noted in my overall comments on this report, I am concerned as to whether the NLG has a copy of the amalgamated consent conditions. However, I do not consider this to be a non-compliance with condition 35(c)</p> (i) Compliant – 30 July 2020 minutes indicate there was discussion around who was an NLG member and who has voting rights. 	Compliant

Cond. #	Consent condition	TD Comments	Compliance status
	<p>any change of conditions pursuant to section 127 of the Resource Management Act 1991 (and/or any consequential amendments).</p> <p>iv. Provided by the Permit Holder with a copy of all monitoring reports and other documentation relating to the non-commercially sensitive, environmental operation of the landfill, at the same time as such reports are provided to the Regional Council in accordance with the resource consents.</p> <p>v. Able to raise with the Permit Holder, as necessary, any matter which the NLG member believes the Permit Holder should address in order to meet the conditions of the consent(s).</p> <p>vi. Able to provide written suggestions to the Permit Holder on possible improvements to, or concerns about the landfilling operations that are formally acknowledged and considered by the Permit Holder at or before the next NLG meeting.</p> <p>vii. Given reasons from the Permit Holder for any comments from the NLG representatives at the annual meeting on environmental and monitoring results in relation to environmental mitigations at the Levin landfill being rejected.</p> <p>viii. Formally invited to participate in the Permit Holder's Waste Management and Minimisation Plan review process.</p> <p>ix. Provided with a copy of any complaints within 10 working days of a request by the NLG.</p>	<p>Previous compliance assessments also indicate this is regularly discussed.</p> <p>(ii) Compliant – The 29 August 2019 NLG meeting minutes note that an onsite meeting will be organised, however it is unclear whether this has happened.</p> <p>(iii) Not applicable – No change to conditions proposed following December 2019 order.</p> <p>(iv) Compliant – I can see from the 2018/19 compliance report that HRC considers that monitoring reports are generally supplied to the NLG on time. However, two quarterly reports (June 2018 and June 2019) and the 2018/19 annual report were supplied late. HDC has advised that the NLG gets sent all relevant reports through the quarterly Solid Waste Newsletter and as previously confirmed, the 2019/20 annual report was sent out on the same day it was supplied to HRC.</p> <p>(v) Compliant – The NLG meeting minutes suggest this is occurring. I reiterate that a copy of the Consent Order (or revised set of conditions) should be sent to NLG if not already.</p> <p>(vi) Compliant - Possible improvements and concerns are recorded in the NLG meeting minutes. I am unaware whether there is another forum for written communication between the NLG and consent holder before NLG meetings.</p> <p>(vii) Compliant – The NLG appears to provide a forum for raising and responding to such concerns.</p> <p>(viii) Not applicable – The WMMP was adopted on 18 July 2018 and is due for review six years from adoption or earlier if required. I am unaware of any current review of the WMMP.</p> <p>(xi) Not assessed – The NLG meeting minutes did not record any requests by the NLG for complaints received.</p>	

Cond. #	Consent condition	TD Comments	Compliance status
36.	Charges, set in accordance with section 36(1)c of the Resource Management Act 1991, and section 690 A of the Local Government Act 1974, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of this resource consent and for the carrying out of its functions under section 35 (duty to gather information, monitor, and keep records) of the Act.	I have not assessed compliance with this condition as part of this reporting.	Not assessed



Condition 6010 – Discharge landfill leachate onto land

Cond. #	Consent condition	TD Comments	Compliance status
1	Charges, set in accordance with section 36(1)c of the Resource Management Act 1991, and section 690 A of the Local Government Act 1974, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of this resource consent and for the carrying out of its functions under section 35 (duty to gather information, monitor, and keep records) of the Act.	I have not been able to consider compliance of this condition.	Compliant
2	There shall be no overland flow discharge of leachate beyond the site boundary.	Previous annual reports indicate that two potential leachate breakouts were detected in August 2017 and January 2018. However, there was no evidence that the leachate escaped the landfill footprint. The 2019/20 annual report states that no leachate breakouts were recorded in this period. Site walkover records were offered to HRC but not provided with the annual report.	Compliant
2A	By the end of April 2021, the Permit Holder must complete an assessment of leachate remediation options (and a BPO) to: (a) cease, or if cessation is not feasible, materially reduce the discharge of leachate to the Tatana Drain and Hokio Stream; or (b) if neither of the options in (a) are feasible then options to offset effects within the Hokio catchment and if that is not feasible or possible options to compensate effects within the Hokio catchment or outside of it (either option through an ecological package). The Permit Holder must provide a draft of the assessment	This condition was inserted in December 2019. The PMG engaged Tonkin and Taylor (T+T) to prepare a BPO assessment of the Levin Landfill. This report, along with accompanying reports, was finalised in December 2019. At a meeting between the PMG and NLG dated 6 July 2020: <ul style="list-style-type: none"> • The NLG was made aware of these reports; and • The PMG communicated its BPO to the NLG. The reports were subsequently published on HDC's website. I note that these reports have not yet been adopted by HDC, nor has any remediation option been implemented. HDC is therefore still within the timeframe required to comply with this condition.	Not applicable

Cond. #	Consent condition	TD Comments	Compliance status								
	to the NLG representatives and Horizons Regional Council for comments. The Permit Holder shall decide on an option that is feasible to implement, applying the hierarchy above from the assessment. The Permit Holder must notify the Regulatory Manager of Horizons Regional Council which option it selects and provide a copy of the final assessment. The selected leachate remediation option must be fully implemented by June 2023.										
3	The Permit Holder shall commence the following monitoring programme:										
	<p>Table A: Deep Aquifer Wells</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Parameters and frequency</th> </tr> </thead> <tbody> <tr> <td>C2dd, E1d, E2d and any other future deep monitoring well unless installed for background monitoring purposes.</td> <td>Quarterly comprehensive for 2 years. <i>Subsequently, conditional</i> Annual comprehensive Quarterly indicator.</td> </tr> <tr> <td>G1d, Xd1 and any other future deep monitoring well installed for background monitoring purposes.</td> <td>Quarterly comprehensive for 1 year <i>Subsequently</i> Annual comprehensive Quarterly indicator</td> </tr> <tr> <td>All monitoring wells where indicator parameters show leachate influence over 3 consecutive sampling rounds.</td> <td>Annual pesticide / semi VOC</td> </tr> </tbody> </table>	Location	Parameters and frequency	C2dd, E1d, E2d and any other future deep monitoring well unless installed for background monitoring purposes.	Quarterly comprehensive for 2 years. <i>Subsequently, conditional</i> Annual comprehensive Quarterly indicator.	G1d, Xd1 and any other future deep monitoring well installed for background monitoring purposes.	Quarterly comprehensive for 1 year <i>Subsequently</i> Annual comprehensive Quarterly indicator	All monitoring wells where indicator parameters show leachate influence over 3 consecutive sampling rounds.	Annual pesticide / semi VOC	<p>The compliance reports for 2017/18 and 2018/19 indicate ongoing compliance with Table A monitoring requirements. Table A was amended in the review of conditions to include new monitoring location Xd1, and require annual pesticide / semi VOC monitoring of all wells.</p> <p>I have reviewed the 2019/20 annual report and associated quarterly reports. I can confirm that wells C2dd, E1d, E2d and G1d were monitored in the January 2020 round for indicator parameters and in the April 2020 monitoring round for indicator and comprehensive parameters. The April 2020 monitoring round also included SVOCs and VOCs. All monitored parameters were compared to DWSNZ limits (Table 2-2 and 2-4).</p> <p>I note however that HDC has not commenced monitoring of XD1. HDC has advised that it is in the process of installing this bore, and that the site will be included in future monitoring rounds. However, HDC is non-compliant with Table A until this occurs.</p>	Non-complying.
Location	Parameters and frequency										
C2dd, E1d, E2d and any other future deep monitoring well unless installed for background monitoring purposes.	Quarterly comprehensive for 2 years. <i>Subsequently, conditional</i> Annual comprehensive Quarterly indicator.										
G1d, Xd1 and any other future deep monitoring well installed for background monitoring purposes.	Quarterly comprehensive for 1 year <i>Subsequently</i> Annual comprehensive Quarterly indicator										
All monitoring wells where indicator parameters show leachate influence over 3 consecutive sampling rounds.	Annual pesticide / semi VOC										
	Table B: Shallow Aquifer Wells	<p>The compliance reports for 2017/18 and 2018/19 indicate ongoing compliance with Table B monitoring requirements. Table B was amended in the review of conditions to include new monitoring locations Xs1 and Xs2 and require annual pesticide / semi VOC monitoring of all wells.</p> <p>I have reviewed the January and April 2020 quarterly reports and confirm</p>	Non-complying								

Cond. #	Consent condition	TD Comments	Compliance status												
	<table border="1"> <thead> <tr> <th data-bbox="338 250 590 271">Location</th> <th data-bbox="590 250 926 271">Parameters and frequency</th> </tr> </thead> <tbody> <tr> <td data-bbox="338 271 590 347">C1, C2, C2ds, D4 B1, B2, B3s, E1s, E2s and any other shallow Compliance monitoring well installed in the future.</td> <td data-bbox="590 271 926 347">Six monthly comprehensive for 2 years Quarterly indicator <i>Subsequently, conditional</i> Annual comprehensive Quarterly indicator</td> </tr> <tr> <td data-bbox="338 347 590 423">D5, F1, F2, F3 and any other shallow monitoring well installed to monitor leachate Irrigation areas in the future.</td> <td data-bbox="590 347 926 423">Six monthly comprehensive for 2 years Quarterly indicator <i>Conditional</i> Annual comprehensive Quarterly indicator</td> </tr> <tr> <td data-bbox="338 423 590 500">G1s and any other shallow Background monitoring well installed in the future.</td> <td data-bbox="590 423 926 500">Quarterly comprehensive for 1 year <i>Subsequently, conditional</i> Quarterly indicator</td> </tr> <tr> <td data-bbox="338 500 590 576">D1, D2, D3r, D6, Xs1, Xs2 and any other Early Detection wells installed in the future.</td> <td data-bbox="590 500 926 576">Quarterly comprehensive for 2 years <i>Subsequently, conditional</i> Annual comprehensive Quarterly indicator</td> </tr> <tr> <td data-bbox="338 576 590 636">All monitoring wells where indicator parameters show leachate influence over 3 consecutive sampling rounds.</td> <td data-bbox="590 576 926 636">Annual pesticide/ semi VOC</td> </tr> </tbody> </table>	Location	Parameters and frequency	C1, C2, C2ds, D4 B1, B2, B3s, E1s, E2s and any other shallow Compliance monitoring well installed in the future.	Six monthly comprehensive for 2 years Quarterly indicator <i>Subsequently, conditional</i> Annual comprehensive Quarterly indicator	D5, F1, F2, F3 and any other shallow monitoring well installed to monitor leachate Irrigation areas in the future.	Six monthly comprehensive for 2 years Quarterly indicator <i>Conditional</i> Annual comprehensive Quarterly indicator	G1s and any other shallow Background monitoring well installed in the future.	Quarterly comprehensive for 1 year <i>Subsequently, conditional</i> Quarterly indicator	D1, D2, D3r, D6, Xs1, Xs2 and any other Early Detection wells installed in the future.	Quarterly comprehensive for 2 years <i>Subsequently, conditional</i> Annual comprehensive Quarterly indicator	All monitoring wells where indicator parameters show leachate influence over 3 consecutive sampling rounds.	Annual pesticide/ semi VOC	<p>that indicator and comprehensive monitoring is being undertaken as required by Table B. All bores were also analysed for sVOCs and VOCs as part of comprehensive monitoring required by the consent.</p> <p>I note however that HDC has not commenced monitoring of XS1 and XS2. HDC has advised that it is in the process of installing these bores, and that the sites will be included in future monitoring rounds. However, HDC is non-compliant with Table B until this occurs.</p>	
Location	Parameters and frequency														
C1, C2, C2ds, D4 B1, B2, B3s, E1s, E2s and any other shallow Compliance monitoring well installed in the future.	Six monthly comprehensive for 2 years Quarterly indicator <i>Subsequently, conditional</i> Annual comprehensive Quarterly indicator														
D5, F1, F2, F3 and any other shallow monitoring well installed to monitor leachate Irrigation areas in the future.	Six monthly comprehensive for 2 years Quarterly indicator <i>Conditional</i> Annual comprehensive Quarterly indicator														
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All monitoring wells where indicator parameters show leachate influence over 3 consecutive sampling rounds.	Annual pesticide/ semi VOC														
	<p>Table A and B conditions: A reduction in sampling frequency at any groundwater point is conditional on:</p> <p>A – Completion of the initial monitoring program</p> <p>B – Good consistency of groundwater sample analysis results, or a clearly identified reason for inconsistent results that excludes the contaminant source being landfill operations, stored waste or leachate;</p> <p>C – No decline in groundwater quality as determined from indicator parameter trends over a period of four consecutive sampling rounds;</p> <p>D – If a well being monitored on a conditional frequency becomes non-compliant with condition C, the monitoring frequency for that well should return to the initial monitoring frequency until conditions B and C are again being fulfilled.</p> <p>Sampling frequency for the shallow monitoring wells installed to monitor proposed leachate irrigation areas as defined in Table B may begin on the conditional</p>	<p>I am not aware of HDC requesting to reduce monitoring, so these conditions are not applicable. I understand the last well to be replaced was in 2009.</p>	Not applicable.												

Cond. #	Consent condition	TD Comments	Compliance status										
	<p>basis, however the frequency is to revert to the unconditional frequency if leachate irrigation begins and continues from that date as if the monitoring well had been newly installed.</p> <p>If site management planning indicates any early detection monitoring well is likely to become buried or otherwise destroyed within the following year as a result of normal operations:</p> <p>E – This must be communicated to the regional council as soon as practicable;</p> <p>F – A replacement well is to be constructed in a position agreed upon with the Environmental Protection Manager at Horizons Regional Council;</p> <p>G – The replacement well should be installed in a position suitable to act as a near detection well and be classed as an early detection well; and</p> <p>H – The replacement well should be constructed as a nested well (or two separate wells) with screens positioned in both shallow and deep aquifers.</p>												
	<p>Table C - Other water monitoring locations, frequencies, parameters.</p> <table border="1" data-bbox="352 1127 932 1390"> <thead> <tr> <th data-bbox="352 1127 583 1146">Location</th> <th data-bbox="583 1127 932 1146">Parameters and frequency</th> </tr> </thead> <tbody> <tr> <td data-bbox="352 1146 583 1195"><u>HS1</u></td> <td data-bbox="583 1146 932 1195"><u>Monthly comprehensive for comparison purposes with HS1A. Monitoring to be discontinued after 2 years</u></td> </tr> <tr> <td data-bbox="352 1195 583 1260"><u>HS+HS1A, HS2, HS3</u></td> <td data-bbox="583 1195 932 1260">Quarterly comprehensive for 2 years <i>Subsequently, conditional</i> Six monthly comprehensive Quarterly indicator</td> </tr> <tr> <td data-bbox="352 1260 583 1292"><u>TD1</u></td> <td data-bbox="583 1260 932 1292"><u>Six monthly comprehensive</u> <u>Quarterly Indicator</u></td> </tr> <tr> <td data-bbox="352 1292 583 1390">Leachate Pond Outlet</td> <td data-bbox="583 1292 932 1390">QuarterlyMonthly comprehensive for 2 years Six monthly pesticide / semi VOC <i>Subsequently, conditional</i> Six monthly comprehensive Quarterly indicator Annual pesticide / semi VOC</td> </tr> </tbody> </table>	Location	Parameters and frequency	<u>HS1</u>	<u>Monthly comprehensive for comparison purposes with HS1A. Monitoring to be discontinued after 2 years</u>	<u>HS+HS1A, HS2, HS3</u>	Quarterly comprehensive for 2 years <i>Subsequently, conditional</i> Six monthly comprehensive Quarterly indicator	<u>TD1</u>	<u>Six monthly comprehensive</u> <u>Quarterly Indicator</u>	Leachate Pond Outlet	Quarterly Monthly comprehensive for 2 years Six monthly pesticide / semi VOC <i>Subsequently, conditional</i> Six monthly comprehensive Quarterly indicator Annual pesticide / semi VOC	<p>The 2019/20 compliance report indicates full compliance with Table C. The December 2019 Consent Order revised Table C to require monthly comprehensive monitoring of HS1A, HS1, HS2, HS3 and the leachate pond for 2 years. The 2019/20 annual report shows that monthly comprehensive monitoring of these sites commenced in April 2020, with results presented from April, May and June 2020.</p>	Compliant
Location	Parameters and frequency												
<u>HS1</u>	<u>Monthly comprehensive for comparison purposes with HS1A. Monitoring to be discontinued after 2 years</u>												
<u>HS+HS1A, HS2, HS3</u>	Quarterly comprehensive for 2 years <i>Subsequently, conditional</i> Six monthly comprehensive Quarterly indicator												
<u>TD1</u>	<u>Six monthly comprehensive</u> <u>Quarterly Indicator</u>												
Leachate Pond Outlet	Quarterly Monthly comprehensive for 2 years Six monthly pesticide / semi VOC <i>Subsequently, conditional</i> Six monthly comprehensive Quarterly indicator Annual pesticide / semi VOC												

Cond. #	Consent condition	TD Comments	Compliance status
	*Quarterly changed to Monthly for HS1A, HS2 and HS3.		
	<p>Table C conditions: A reduction in sampling frequency at the Hokio Stream monitoring locations after April 2021 is conditional on:</p> <p>I – No significant increases in the concentrations between monitoring sites HS1A and HS3, for parameters exceeding the Trigger values contained in Table C1 at Site HS3;</p> <p>J – To determine whether there is a significant increase in contaminant levels the consent holder shall engage a suitably qualified freshwater scientist to assess the 24 month water quality monitoring results obtained for the Hokio Stream against the trigger values specified in Table C1, after 24 months of monthly data collection. Should any of the trigger values be exceeded at the downstream monitoring site (HS3 as per Fig. X) the consent holder shall propose a statistical analysis approach to the Regional Council for certification. The analysis shall be run, for the parameter(s) exceeding the relevant trigger value, on the last 24 consecutive samples to determine if there are any significant increases in concentrations between upstream and downstream. This analysis shall be provided to the Regional Council within 3 months following the completion of the 24-month monitoring period;</p>	These conditions relate to a reduction in monitoring frequency after April 2021 and are therefore not relevant to this review.	Not applicable.



Cond. #	Consent condition	TD Comments	Compliance status																																							
	<p data-bbox="359 253 548 272"><u>Table C1: Trigger Values</u></p> <table border="1" data-bbox="359 285 936 565"> <thead> <tr> <th>Parameter</th> <th>Measure</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Total ammoniacal nitrogen</td> <td>Maximum (g/m³)</td> <td>2.1</td> </tr> <tr> <td>Total ammoniacal nitrogen</td> <td>Average (g/m³)</td> <td>0.400</td> </tr> <tr> <td>ScBODs</td> <td>Monthly average (g/m³)</td> <td>2</td> </tr> <tr> <td>Aluminium</td> <td>Dissolved, median concentration (g/m³)</td> <td>0.055</td> </tr> <tr> <td>Arsenic</td> <td>Dissolved, median concentration (g/m³)</td> <td>0.024</td> </tr> <tr> <td>Cadmium</td> <td>Dissolved, median concentration (g/m³)</td> <td>0.0002</td> </tr> <tr> <td>Chromium (Total)</td> <td>Dissolved, median concentration (g/m³)</td> <td></td> </tr> <tr> <td>Copper</td> <td>Dissolved, median concentration (g/m³)</td> <td>0.0014</td> </tr> <tr> <td>Lead</td> <td>Dissolved, median concentration (g/m³)</td> <td>0.0034</td> </tr> <tr> <td>Nickel</td> <td>Dissolved, median concentration (g/m³)</td> <td>0.011</td> </tr> <tr> <td>Zinc</td> <td>Dissolved, median concentration (g/m³)</td> <td>0.008</td> </tr> <tr> <td>Mercury</td> <td>Dissolved, median concentration (g/m³)</td> <td>0.0006</td> </tr> </tbody> </table> <p data-bbox="348 621 942 922">K – Following the initial 24-month monitoring period, there shall be no significant increases in concentrations between monitoring sites HS1A and HS3 for parameters exceeding the Trigger values contained in Table C1 at Site HS3. The consent holder shall use a statistical approach certified by the Regional Council to determine whether there has been a significant increase in concentrations, based on samples collected over the previous 36-month period.</p> <p data-bbox="348 938 942 1157">L – If the Hokino Stream monitoring locations are being sampled on a conditional frequency and do not meet condition K, the monitoring frequency for all three monitoring locations (HS1a, HS2 and HS3) should return to the base case intensive monitoring until conditions J and K are again being fulfilled.</p>	Parameter	Measure	Value	Total ammoniacal nitrogen	Maximum (g/m ³)	2.1	Total ammoniacal nitrogen	Average (g/m ³)	0.400	ScBODs	Monthly average (g/m ³)	2	Aluminium	Dissolved, median concentration (g/m ³)	0.055	Arsenic	Dissolved, median concentration (g/m ³)	0.024	Cadmium	Dissolved, median concentration (g/m ³)	0.0002	Chromium (Total)	Dissolved, median concentration (g/m ³)		Copper	Dissolved, median concentration (g/m ³)	0.0014	Lead	Dissolved, median concentration (g/m ³)	0.0034	Nickel	Dissolved, median concentration (g/m ³)	0.011	Zinc	Dissolved, median concentration (g/m ³)	0.008	Mercury	Dissolved, median concentration (g/m ³)	0.0006		
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	<p data-bbox="348 1175 942 1239">Table C conditions: A reduction in sampling frequency at the leachate pond outlet is conditional on:</p> <p data-bbox="348 1255 942 1279">M – Completion of the initial 2-year monitoring program;</p> <p data-bbox="348 1295 942 1359">N – Good consistency of water sample analysis results, or a clearly identified reason for inconsistent results;</p> <p data-bbox="348 1375 942 1399">O – No decline in water quality over a period of four</p>	<p data-bbox="968 1175 1724 1239">I am not aware of any reduction in frequency proposed, meaning these conditions are not relevant to this review.</p>	<p data-bbox="1780 1175 1929 1200">Not applicable.</p>																																							

Cond. #	Consent condition	TD Comments	Compliance status
	<p>consecutive sampling rounds.</p> <p>P – If the leachate pond outlet is being sampled on a conditional frequency and becomes non-compliant with condition O, the monitoring frequency should return to the base case intensive monitoring until conditions N and O are again being fulfilled.</p> <p>If existing analysis records indicate that the water quality at a monitoring location complies with the requirements permitting a shift to a conditional sampling schedule, this may be done immediately. If the site complies, sampling for these parameters can be instigated following the base schedule while sampling for the other parameters can be continued based on the conditional schedule.</p> <p>Locations:(Unless otherwise stated, locations are described on Figure 4, attached to and forming part of this consent).</p>		
	<p>Table D: Monitoring point locations</p> <p>Alternative Sampling Sites: Some of the sampling sites are located on land that is not owned by the consent holder. Sampling at these sites is subject to the landowner approval. If that approval is not given, then samples must be collected from the nearest suitable and accessible site, as agreed to with the Regulatory Manager at the Regional Council.</p>	<p>A site plan showing the monitoring locations is appended to the annual and quarterly reports. The site plan has been updated to include HS1A and TD1. However, it does not include Xs1, Xs2 or Xd1; which is the reason for non-compliance. As already mentioned, HDC has advised these sites will be included in the next monitoring round and I presume the new monitoring sites will be included within the next site plan provided with quarterly or annual reporting.</p>	Non-complying.
	<p>Table E: Comprehensive Analysis List</p>	<p>The sampling schedule provided in Appendix B of the quarterly reports demonstrate compliance with Table E.</p>	Compliant

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	<p>Table F: Indicator Analysis List</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Parameters</th> </tr> </thead> <tbody> <tr> <td>Characterising</td> <td>pH, EC</td> </tr> <tr> <td>Oxygen demand</td> <td>COD, <u>scBOD₅</u></td> </tr> <tr> <td>*Nutrients</td> <td>NO₃-N, NH₄-N</td> </tr> <tr> <td>*Metals</td> <td>Al, Mn, Ni, Pb, <u>Hg</u></td> </tr> <tr> <td>Other elements</td> <td>B, Cl</td> </tr> </tbody> </table>	Type	Parameters	Characterising	pH, EC	Oxygen demand	COD, <u>scBOD₅</u>	*Nutrients	NO ₃ -N, NH ₄ -N	*Metals	Al, Mn, Ni, Pb, <u>Hg</u>	Other elements	B, Cl	The sampling schedule provided in Appendix B of the quarterly reports demonstrate compliance with Table E.	Compliant				
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	<p>Schedule: The sampling regime defined in Tables A to C shall be undertaken based on the following schedule:</p> <p>Q – The first samples for all parameters shall be taken in July 2010.</p> <p>R – Quarterly monitoring referred to in Tables A and B shall be carried out in January, April, July and October.</p> <p>S – Six monthly monitoring referred to in Tables A and B shall be carried out in April and October.</p> <p>T – Annual monitoring referred to in Table A shall be carried out in April.</p>	The quarterly and annual monitoring reports demonstrate this monitoring schedule is being complied with.	Compliant																
	<p>U – The Permit Holder shall invite NLG to nominate a representative who shall, at the person's own cost, be permitted to observe the quarterly and six-monthly monitoring referred to in Table C.</p>	This condition was included as part of December 2019 consent order. HDC has advised that it will ask the NLG to nominate someone from the group in accordance with this condition at the NLG meeting on 17 November 2020. I note however that this condition was not complied with during the timeframe of this assessment.	Non-complying																
4	<p>The Permit Holder shall monitor soils in the irrigated areas. The first soil samples from an irrigation area shall be taken in the first year that leachate is irrigated to land in that area and shall be taken prior to irrigation. Thereafter, samples</p>	As discussed, leachate is being pumped to the Levin WWTP so this condition is no longer applicable.	Not applicable																

Cond. #	Consent condition	TD Comments	Compliance status												
	<p>shall be taken on the schedule provided in Table H.</p> <p>Table H: Soil Monitoring Locations, Parameters, and Frequencies</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Parameters and frequency</th> </tr> </thead> <tbody> <tr> <td>All soil sampling locations.</td> <td>Background prior to irrigation Six monthly metals and other elements for 2 years Annual pesticide / semi VOC <i>Subsequently, conditional</i> Annual metals and other elements</td> </tr> </tbody> </table> <p>Parameters: The analysis parameters applied for soil monitoring are presented in Table I:</p> <p>Table I: Irrigated Soil Analysis List</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Parameters</th> </tr> </thead> <tbody> <tr> <td>Metals</td> <td>Al, As, Cd, Cr, Co, Hg, Ni, Pb, Zn</td> </tr> <tr> <td>Other elements</td> <td>Cl, B</td> </tr> <tr> <td>Organics</td> <td>Pesticides to screen concentrations Semi-volatile organic compounds</td> </tr> </tbody> </table>	Location	Parameters and frequency	All soil sampling locations.	Background prior to irrigation Six monthly metals and other elements for 2 years Annual pesticide / semi VOC <i>Subsequently, conditional</i> Annual metals and other elements	Type	Parameters	Metals	Al, As, Cd, Cr, Co, Hg, Ni, Pb, Zn	Other elements	Cl, B	Organics	Pesticides to screen concentrations Semi-volatile organic compounds		
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5	The results of monitoring under Conditions 3 and 4 of this Permit shall be reported to the Regional Council by 30 September each year for the duration of this Permit.	Monitoring results are reported to HRC on a quarterly and annual basis. I can confirm that the 2019/20 annual report was submitted to HRC on 30 September 2020.	Compliant												
6	The Permit Holder shall ensure the above monitoring programme is undertaken by either the Regional Council, or an independent organisation approved by the Environmental Protection Manager of the Regional Council.	I understand HRC has previously provided approval for Stantec (previously as MWH) to undertake the monitoring programme as a contractor/agent of the consent holder.	Compliant												
7	The Permit Holder shall inform the Neighbourhood Liaison Group of the identity of the organisation carrying out the monitoring.	Monitoring reports have previously been sent to members of the NLG. These identify that Stantec is undertaking the monitoring.	Compliant												
8	The Permit Holder shall meet the costs of the monitoring.	I understand Stantec has been engaged and paid by HDC.	Compliant.												
9	The Permit Holder shall report the results of the monitoring to the Neighbourhood Liaison Group by 30 September each year for the duration of the Permit.	Quarterly monitoring reports are sent out to the NLG by way of the Solid Waste Newsletter. I understand from previous compliance assessments that the 2018/19 annual report was delivered late, but HDC has confirmed that the 2019/20 annual report was delivered on 30 September 2020.	Compliant												
10	All analyses on water quality samples shall be carried out by an IANZ accredited laboratory	Analysis is undertaken by Eurofins ELS Ltd. Eurofins is accredited by International Accreditation New Zealand.	Compliant												
11(a)	Should any shallow aquifer groundwater parameters tested for under Condition 3 of this consent exceed the Australian	Condition 11(a) was amended as part of the decisions version and the December 2019 consent order to only require assessment of shallow	Compliant												

Cond. #	Consent condition	TD Comments	Compliance status
	<p>and New Zealand Environment and Conservation Council Water Quality Guidelines (2000) for Livestock Watering, the Permit Holder shall report to the Regional Council as soon as practicable on the significance of the result and, where the change can be attributed to landfill leachate, then Condition 11(c) applies</p>	<p>groundwater aquifers against ANZECC LW values, and to include the specified pathway in condition 11(c). The 2017/18 and 2018/19 compliance reports indicate ongoing compliance with this condition, noting some issues with faecal coliforms in 2018/19 at C2 that may be influenced by the Tatana Drain.</p> <p>The quarterly and annual reports show that HDC is reporting on ANZECC LW exceedances and providing commentary on these. While exceedances were recorded in 2019/20, HDC did not attribute these to landfill leachate, so the process required by condition 11(c) was not required.</p>	
11(aa)	<p>Should any surface water parameters tested for under Condition 3 of this consent, including the Tatana Drain location, exceed the Australian and New Zealand Environment and Conservation Council Water Quality Guidelines (2000) for 95 per cent protection levels for Aquatic Ecosystems the Permit Holder shall report to the Regional Council as soon as practicable on the significance of the result. Where the change can be attributed to landfill leachate the Consent Holder shall consult with the Regional Council to determine if further investigation or remedial measures are required.</p>	<p>Condition 11(aa) was included in the review decisions version. Surface water results are therefore now compared against the ANZECC AE 95% trigger values.</p> <p>Section 5 of the 2019/20 annual report provides an analysis of the results for Hokio Stream. Section 5 states that there were exceedances of nitrate-N at HS1, HS2 and HS3 when compared to the ANZECC AE 95% trigger values. However the report does not specifically comment on the significance of this exceedance, making it difficult to determine whether further investigation is required.</p> <p>Section 6 of the 2019/20 annual report provides an analysis of the results for Tatana Drain. Section 6.2 states that there were exceedances of ammoniacal-N, BOD and nitrate-N when compared to the ANZECC AE 95% trigger values. However the report does not specifically comment on the significance of this exceedance. Section 6.2 further states that the Tatana Drain appears to be intercepting leachate-contaminated groundwater and discharging directly to the Hokio Stream.</p> <p>I have assessed HDC as non-complying with this condition based on</p>	<p>Non-complying.</p>

Cond. #	Consent condition	TD Comments	Compliance status
		incomplete reporting.	
11(b)	<p>In the event that the statistical analysis completed under Condition 3J shows a significant increase between upstream and downstream results in the Hokio Stream for any parameter exceeding the trigger exceeding the Trigger values contained in Table C1 at Site HS3 (except for scBODs), an investigation into the risk of significant effects due to the parameter(s) exceeding the water quality targets or trigger values at the HS3 monitoring site shall be undertaken. This investigation shall be consistent with the ANZECC guidelines framework and should consider, but not be limited to, water chemistry aspects (such as pH, water hardness, dissolved versus total concentrations etc.), and biological aspects. The Permit Holder shall report to the Regional Council, within 3 months of the date the report under condition 3J was submitted to the Regional Council, on the significance of the result and, where the change can be attributed to landfill leachate then Condition 11(c) applies</p>	<p>This condition was amended in the 2016 decisions version and 2019 consents order. This condition relates to the Condition 3J analysis required when a reduction in surface water sampling frequencies is requested. This condition is not currently applicable.</p>	Not applicable.
11(c)	<p>In the event that a significant effect associated with the landfill leachate is reported pursuant to Conditions 11(a), 11(b) or 11(e) then:</p> <p>(i) The Permit Holder must appoint an independent expert to promptly review the works implemented under condition 2A in light of the findings of the monitoring and identify whether they are working as designed. If they are not working as designed the report shall specify corrective works required and a timeframe to implement them</p>	<p>This condition was revised in December 2019 to include a new response pathway. Neither the January nor April 2020 quarterly reports or the 2019/20 annual report specifically indicate a significant effect, so it appears this condition has not yet been implemented.</p>	Not applicable.

Cond. #	Consent condition	TD Comments	Compliance status
	<p>(ii) The Permit Holder shall promptly complete all recommended corrective works in accordance with the timeframes set out in the review.</p> <p>(iii) The Permit Holder shall provide a copy of the review to the Regional Council and NLG within 5 working days of receipt.</p>		
11(d)	<p>The Permit Holder shall annually review the data derived from the groundwater monitoring program and evaluate contaminant mass load projections for discharges from the landfill to the Hokio Stream. The contaminant mass load projections shall be based primarily, but not exclusively, on the monitoring data obtained for the “B”, “C” and “X” series bores indicated in Table D of this discharge permit. The annual report required under Condition 5 shall include the following information:</p> <p>(i) A summary of the methodology used to calculate the mass load projections.</p> <p>(ii) The calculated mass loads transported in the groundwater and comparable mass loads in the Hokio Stream.</p> <p>(iii) An analysis of the implications of the mass load calculations with respect to ensuring discharges from the landfill would not result in a decline in the water quality in the Hokio Stream under Condition 3.</p>	<p>Previous compliance reports have indicated full compliance with this condition. Section 7 of the annual monitoring reports provide the Mass Loading Evaluation for the Hokio Stream. This includes a summary of the methodology used, calculated mass loads, and a mass load evaluation for the stream.</p> <p>The 2019/20 annual report states “The water quality of the Hokio Stream is influenced strongly by the urban and rural catchments. The actual and predicted results indicate that the impact from the Levin Landfill on the Hokio Stream is likely to be minimal within the wider catchment context.”</p>	Compliant
11(e)	<p>Should the groundwater parameters tested for under Condition 3 of this consent, and subsequent evaluation and indicative assessment of contaminant mass loads under Condition 11(d) of this consent indicate that contaminants sourced from either the closed or active areas of the Levin</p>	<p>Previous compliance assessments (2017/18 and 2019/20) have noted that the groundwater (GW) monitoring does not currently indicate a decline in water quality (WQ) of the Hokio Stream.</p> <p>The 2019/20 annual report states that the impact of the landfill on Hokio Stream is likely to be minimal (see assessment against Condition 11(d)),</p>	Not applicable.

Cond. #	Consent condition	TD Comments	Compliance status
	Landfill are likely to result in a significant effect associated with the landfill leachate as identified through an investigation under Condition 3, then condition 11(c) applies.	meaning the procedure required and condition 11(c) has not been implemented by the consent holder.	
12	Should any parameters tested for under Condition 3 of this consent from the deeper gravel aquifer (bores identified as C2dd, E1, E2, the proposed G1d and any other monitoring bore intersecting the deep gravel aquifer), exceed the requirements of the Ministry of Health's Drinking Water Standards for New Zealand 2000, the Permit Holder shall report to the Regional Council as soon as practicable on the significance of the results and, where the change can be attributed to landfill leachate, consult with the Regional Council to determine if further investigation or remedial measures are required.	<p>Previous compliance reports have indicated full compliance with this condition.</p> <p>The 2019/20 annual report identifies that the DWSNZ GV were exceeded for two parameters over the reporting period. However, the reporting does not specifically comment on the significance of this exceedance and whether it can be attributed to landfill leachate, as required by this condition. I have therefore assessed HDC as non-complying.</p>	Non-complying
13	Sampling of the groundwater wells within a 1.5 km radius down-flow or across-flow from the landfill property boundary is to be carried out by the Permit Holders representative upon receiving a written invitation from the bore owners. The frequency of sampling is to be decided through discussion between the bore owner and the Permit Holder. Initial analyses from individual bores are to be tested for the parameters in the Comprehensive Analysis List in Condition 3. Subsequent testing may be performed based on the Indicator Analysis List in Condition 3. Should analysis of water obtained from any groundwater wells used for human drinking water show concentrations of parameters which exceed the requirements of the Ministry of Health's Drinking Water Standards for New Zealand	While undertaking this assessment, I have not become aware of any bore owners approaching the consent holder for groundwater sampling pursuant to this condition.	Not applicable.

Cond. #	Consent condition	TD Comments	Compliance status
	<p>2000, or repeated sampling from a specific bore indicates a decrease in water quality, the Permit Holder shall report to the Regional Council and the bore owner as soon as practicable on the significance of the results. Where the exceedance or decreasing water quality can be attributed to landfill leachate, the Permit Holder shall consult with the Regional Council and the bore owner to determine if further investigation or remedial measures are required.</p>		
14	<p>Any currently active and future lined landfill area shall be closed and remediated by:</p> <ul style="list-style-type: none"> (a) Compacting refuse to such an extent and consistent with CAE guidelines of 600-800 kg/m³, to ensure post closure settlement is minimised as far as practicable; and (b) Grading to a final slope of less or equal to 1V:3H (1 in 3) on any face; and (c) Ensuring the landfill cap incorporates a layer at least 700 mm thick with a permeability of no greater than 1 x 10⁽⁻⁷⁾ m/s, or has a material and layer structure that reduces rainwater infiltration to the waste to an equivalent extent; and (d) Establishing and maintaining a grass or tussock vegetation cover on the capped landfill, unless it can be demonstrated to the Regional Council's satisfaction that a different vegetation cover can produce clear benefits through reducing infiltration to the covered waste. Any vegetation cover should be consistent with an ongoing capacity to monitor and maintain the ongoing integrity of the landfill cap. In- 	<p>Final capping of the existing landfill is yet to occur, meaning most of these conditions are not yet applicable.</p> <ul style="list-style-type: none"> (a) Complies - 2017/18 and 2018/19 annual reports show a density of 0.93t/m³ each year, which does not comply with the 0.6-0.8t/m³ required by this condition. However, the 2019/20 annual report shows a density of 0.65t/m³ which complies. (b) Not applicable (c) Not applicable (d) Not applicable. 	Compliant

Cond. #	Consent condition	TD Comments	Compliance status
	situ refuse density shall be determined through annual calculation based on information derived from topographic surveys of the landfill and borrow areas, and from weighbridge records. The survey shall be carried out within one month of the anniversary of the previous survey.		
	Specific conditions – discharge leachate to ground from existing landfill		
15	<p>The Permit Holder shall close and remediate the existing unlined landfill by April 2011 by:</p> <ul style="list-style-type: none"> (a) Grading to a final slope on the landfill faces and caps of between 1V:3H (1 in 3) and 1V:40H (1 in 40); (b) Ensuring the final landfill surface is sloped to promote run-off toward the outside of the landfill footprint and prevent surface water ponding on the landfill cap; (c) Ensuring the landfill cap incorporates a layer at least 700 mm thick. All material added to the existing cap to bring the thickness up to 700 mm, or for future cap maintenance purposes, is to have a permeability of no greater than 1×10^{-7} m/s; (d) Establishing and maintaining a grass or tussock vegetation cover on the capped landfill consistent with an ongoing ability to monitor and maintain the integrity of the landfill cap. The vegetation is to be managed to exclude tree species that can potentially develop root systems capable of disrupting the landfill cap and thereby enhancing rainwater infiltration; (e) Monitoring the landfill cover on an annual basis to 	<p>I understand the final capping of the unlined landfill was detailed in the 2010/11 HRC Levin Landfill Compliance Report and was assessed as compliant with this condition at the time. However, I note that several of these conditions require ongoing compliance and reporting to HRC on the condition of the unlined landfill.</p> <ul style="list-style-type: none"> (a) Not assessed - While this has previously been assessed as compliant, HDC is not reporting on this condition in its annual reporting. I am therefore unable to assess ongoing compliance with this condition. (b) Non-compliant - HRC has previously reported non-compliance with this condition due to ponding reported by HDC in 2018/19. HRC recommended HDC observe where ponding is occurring and apply capping material during dry weather. The 2019/20 annual report states that ponding areas will be filled by January 2021 and I have confirmed this with HDC. At the site visit, I observed water logging in some places, as well as minor isolated ponding and what appeared to be vehicle tracks. While the 2019/20 annual report provides evidence that this will be remedied, at the time of assessment, HDC was non-compliant with this condition. (c) Not assessed - The 2019/20 annual report mentions that the old landfill is also being used as an area to stockpile clean fill. I observed the clean 	Non-Compliant

Cond. #	Consent condition	TD Comments	Compliance status
	<p>identify areas of differential settlement slope stability issues, erosion and changing vegetation patterns, including a topographic survey to ensure Conditions 15(a) to (d) continue to be met; and</p> <p>(f) The Permit holder shall submit an annual report to the Regional Council by 30 September each year for the duration of this Permit documenting the condition of the unlined landfill and any maintenance carried out during the previous year. The annual report shall address but not be limited to those aspects listed in Conditions 15(a) to (e) above. The annual report shall include a plan of the unlined landfill specifically documenting the shape of the closed landfill and any changes during the previous year. [The annual report can be written in conjunction with the annual report required as part of Condition 14 for Consent Number 6009].</p> <p>The area of the existing landfill to be remediated is defined as Area A on Figure 1 attached</p>	<p>fill stockpile at the site visit and understand it was placed here in 2017. As far as I am aware, HDC has not subsequently measured the depth of the capping to confirm compliance with Condition 15(c). I am therefore unable to assess compliance with this condition. HDC needs to measure and report on the existing cap depth to confirm compliance.</p> <p>(d) Compliant - I observed grass / tussock cover on the site visit compliant with this condition.</p> <p>(e) Non-compliant - HDC does not appear to be monitoring compliance with (a) and (c).</p> <p>(f) Non-compliant - As mentioned, section 12 of the annual report provides an update on the status of the old landfill cover. However, HDC does not appear to be reporting on (a) and (c) as required by this condition.</p>	
16	Within one month following the remediation of the Levin landfill, the Permit Holder shall report in writing to the Regional Council of the Permit Holder's compliance with Conditions 14 and 15 of this permit.	Not applicable	Not applicable.
	Specific conditions – Discharge leachate to ground from lined landfill		
	Environmental Effects		
17	There shall be no disposal of leachate sludge from the pond onto irrigation areas. Leachate sludge shall be disposed of	The past three annual reports (2017-2020) confirm that all leachate is being pumped to the Levin WWTP. I can confirm from the site visit that the leachate pond is no longer in use.	Not applicable.

Cond. #	Consent condition	TD Comments	Compliance status
	in accordance with Condition 26 of consent number 6009 and Condition 18 of consent number 7289.		
18	The rate of application of leachate irrigated to land shall not exceed 200 kg Nitrogen/hectare per year		Not applicable.
19	There shall be no ponding or runoff of leachate on or beyond the irrigation areas		Not applicable.
20	Subject to Condition 19 of this permit, application of leachate on to soil shall not exceed 50 millimetres per day. Notwithstanding, the maximum rate of application shall not exceed 5 millimetres per hour.		Not applicable.
21	There shall be no discharge of offensive or objectionable odour at or beyond the legal boundary of the Levin Landfill property as shown on Figure 1 resulting from leachate irrigation.		Not applicable.
22	Should the quality of leachate being irrigated exceed the STV parameters set out in the Australian and New Zealand Environment and Conservation Council Water Quality Guidelines (2000) for metals in Irrigation Water the Permit Holder shall report to the Regional Council as soon as practicable on the significance of the result and in consultation with the Regional Council determine if further investigation or remedial measures are required.		Not applicable.
	Process management		
23	The daily volume of leachate irrigated to land shall be metered and recorded		Not applicable.
24	The Permit Holder shall make regular and at least weekly, inspections of the irrigation system, including pumps, pipes, irrigators and vegetation to ensure that the system is operating efficiently and that vegetation is in good health.		Not applicable.

Cond. #	Consent condition	TD Comments	Compliance status
25	<p>The Permit Holder shall have carried out the works described in Condition 14(a) to (d) of this permit to rehabilitate:</p> <p>(a) Any lined landfill area within four months following the closure of that lined landfill area, if the landfill area is closed before 35 years from the granting of this consent.</p> <p>(b) Any lined landfill area before 35 years from the granting of this consent.</p>	I understand Stage 1a, although not closed, has interim capping in place and is in general accordance with conditions 14(a) to (d).	Not applicable.
	Monitoring and reporting		
26	<p>A plan of the leachate irrigation system shall be prepared to the satisfaction of the Regional Council's Environmental Protection Manager nine months prior to placement of refuse on the lined landfill. The plan shall include:</p> <p>(a) A map showing areas to be irrigated;</p> <p>(b) Design of the recirculation, treatment and irrigation systems;</p> <p>(c) Contingency measures in case of failures in the irrigation system;</p> <p>(d) Criteria for installing aerators in the leachate pond;</p> <p>(e) Assessment of options for recirculating leachate over the lined landfill;</p> <p>(f) Assessment of groundwater profile beneath the irrigation area and effects leachate irrigation will have on groundwater;</p> <p>(g) Groundwater and soil monitoring programme, including a map showing sampling locations; and</p> <p>(h) Any other relevant matter.</p>	This condition has previously been assessed as compliant. I note that the leachate irrigation system is not currently in operation given all leachate is pumped to the Levin WWTP.	Not applicable.

Cond. #	Consent condition	TD Comments	Compliance status
27	<p>The Permit Holder shall keep a log of:</p> <ul style="list-style-type: none"> (a) The dates and times of leachate irrigation; (b) The total volume of leachate irrigated daily; (c) The volumes of leachate irrigated to specific areas; (d) Weather and ground conditions during irrigation; (e) Observations made during the weekly inspections of the pump, irrigation system and irrigation areas; and (f) Repairs and maintenance carried out on the irrigation system. <p>Copies of this log shall be forwarded to the Regional Council's Environmental Protection Manager on 28 February and 31 August of each year that the irrigation system is operated.</p>	As discussed, all leachate is being pumped to the Levin WWTP. This condition is therefore not applicable.	Not applicable.
28	The Permit Holder shall inspect the landfill for leachate break out, settlement and other adverse environmental effects at least once per month until such time as discharge of refuse to the landfill ceases. Thereafter, the frequency of inspection shall be determined in consultation with the Regional Council.	The annual reports state that the current landfill is inspected weekly and observations are recorded on the weekly site walkover sheet. Two minor breakouts were reported in 2017/18, and HDC has not reported further on any remedial actions taken. The 2018/19 and 2019/20 annual reports state that no breakouts were detected during these periods. I note that the site walkover sheets have not been provided in the annual reports, therefore compliance is based entirely on what HDC has reported. Provision of these sheets would be helpful to confirm ongoing compliance with the condition.	Compliant
29	The Permit Holder shall record the date, time, observations and any remedial action as a result of Condition 28. The record shall be made available to the Regional Council on request.	No breakouts were detected during the past two years' annual reporting.	Not applicable.
	Review		
30	The Regional Council may initiate a publicly notified review of Conditions 3, 4, 11(a) (e), 12, 13, 14, 24, 27, 28 and 29 of	Not applicable - next review due October 2024.	Not applicable

Cond. #	Consent condition	TD Comments	Compliance status
	<p>this Permit during the month of October in 2024, 2029 and 2034. The reviews shall be for the purpose of:</p> <ul style="list-style-type: none"> (a) Assessing the adequacy of monitoring outlined in Conditions 3 and 4 of this consent; and/or (b) Assessing the effectiveness of Conditions 11(a) – (e), 12, 13, 14, 24, 27, 28 and 29 of this consent, in avoiding, remedying or mitigating adverse effects on the environment surrounding the Levin Landfill. The review of conditions shall allow for the: (c) Modification of monitoring outlined in Conditions 3 and 4 of this consent; (d) Deletion or changes to Conditions 11(a) – (e), 12, 13, 14, 24, 27, 28 and 29 of this consent; (e) Addition of new conditions as necessary, to avoid, remedy or mitigate adverse effects on the environment surrounding the Levin Landfill. 		
31	<p>The Regional Council may initiate a publicly notified review of Conditions 11 (a) – (e) of this Permit at any time outside those reviews required by Condition 30. The review shall be carried out pursuant to section 128 (1)(a)(i) of the Resource Management Act 1991 and shall be for the specific purpose of:</p> <ul style="list-style-type: none"> (a) Assessing the need and appropriateness of implementing a mitigation or remediation plan as the best practicable option to remove or reduce any adverse effect on the water quality of the Hokio Stream. The review of conditions shall allow for the: (b) Deletion or changes to Conditions 11(a) – (e) of this consent; 	The HRC has not initiated any public review since the December 2019 consent order.	Not applicable.

Cond. #	Consent condition	TD Comments	Compliance status
	<p>(c) Addition of new conditions as necessary, to avoid, remedy or mitigate adverse effects on the environment surrounding the Levin Landfill. The review of conditions shall have regard to:</p> <p>(d) The nature of the discharge and the receiving environment; and</p> <p>(e) The financial implications for the applicant of including that condition; and</p> <p>(f) Other alternatives, including a new condition requiring the observance of minimum standards of quality of the receiving environment, having regard to the need to be satisfied that including that condition is the most efficient and effective means of removing or reducing that adverse effect.</p>		



Consent 6011 – Discharge landfill gas, odour and dust to air

Cond. #	Consent condition	TD Comments	Compliance status
1	Charges, set in accordance with section 36(1)c of the Resource Management Act 1991, and section 690 A of the Local Government Act 1974, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of this resource consent and for the carrying out of its functions under section 35 (duty to gather information, monitor, and keep records) of the Act.	I have not assessed compliance with this condition as part of this reporting.	Not assessed
	Environmental effects		
2	The Permit Holder will ensure dust is controlled on access roads and on the landfill, if necessary, by watering or other methods.	I did not observe any dust issue at the site visit. Main access roads are sealed. The 2018/19 compliance report states that all complaints received during that period were related to odour. The HDC complaints log for 2019/20 also does not record any complaints in relation to dust. I note that HDC does not specifically report on dust issues in its annual reporting.	Compliant
3	There shall be no objectionable or offensive odour or dust beyond the boundary of the site. Advice note: Odour investigations for the purpose of determining compliance with this condition shall be carried out in accordance with good practice measures outlined in the Ministry for the Environment Good Practice Guideline for Assessment and Management of Odour (MfE, 2016).	Full assessment of compliance with this condition is inherently difficult. I have been unable to obtain a copy of HRC's complaints register to determine whether any investigations resulted in a finding of objectionable odour. Additionally, there are substantial logistical challenges in HRC's ability to investigate odour complaints given their distance to the landfill and the response time required. Odour may have been objectionable at the time the complaint was made, but no longer objectionable by the time it is being Investigated. Assessment against this condition is therefore based on the Information I have been able to obtain, specifically HDC annual reporting and the NLG meeting minutes. While I have not obtained a copy of HRC's complaints log for 2019/20, I	Compliant

Cond. #	Consent condition	TD Comments	Compliance status
		<p>understand from NLG meeting minutes that several complaints were made from February to June, many of which were unable to be investigated due to the COVID-19 workplace restrictions. I understand from HDC that there were issues with the gas flare during the time.</p> <p>HDC has implemented odour monitoring at the boundary since March 2020 as reporting in the 2019/20 annual report. HDC carried out 6 odour assessments at the boundary from March – June 2020. Each of these assessments had the same finding, being odour was detected but was not considered objectionable at any location for any duration or frequency. No further action was undertaken.</p> <p>Based on no findings of objectionable odour, I have concluded compliance with this condition, noting the limitations outlined above.</p>	
4	<p>If an appropriately experienced officer of the Manawatu-Wanganui Regional Council or a suitably qualified independent expert considers that an objectionable odour beyond the boundary has occurred, having regard to:</p> <ul style="list-style-type: none"> (i) a consideration of the FIDOL factors; and/or (ii) receipt of complaints from neighbours or the public having considered (i); and/or (iii) relevant written advice or a report from an Environmental Health Officer of a territorial authority, then <p>And the permit holder receives a request from the Manawatu-Wanganui Regional Council to provide them with a written report, then the report shall specify;</p> <ul style="list-style-type: none"> (a) the activities that were occurring on the site at the time; 	<p>Condition 4 was amended in the Decisions Version of these conditions. However, I note that the Consent Order does not include Condition 4, and instead refers to an amended Condition 4, which is Condition 5 in the Decisions Version. Therefore, I am unclear as to whether Condition 4 is still valid (hence the reason why an amalgamated version of the consent conditions needs to be compiled and provided to HRC).</p> <p>As the odour assessments reported in the 2019/20 annual report did not observe any objectionable odour, the response procedure in Condition 4 was not initiated in this period.</p>	Not applicable.

Cond. #	Consent condition	TD Comments	Compliance status
	<p>(b) the cause or likely cause of the event and any factors that influenced its severity;</p> <p>(c) the nature and timing of any measures implemented by the permit holder to avoid, remedy or mitigate any adverse effects; and</p> <p>(d) the steps to be taken in future to prevent re-occurrences of similar events should this be necessary.</p> <p>The permit holder shall provide its report for items (a), (b) and (c) within five days and for item (d) within 20 days of request. When notification of an alleged objectionable odour is delayed such that investigation by the permit holder is compromised, the report should as far as practicable include the information required by (a) – (d).</p>		
4	<p>The Permit Holder will also ensure that:</p> <p>(a) Groundwater monitoring wells shall be sampled for landfill gas when groundwater samples are taken from the wells. As a minimum, sampling shall be undertaken for methane, carbon dioxide and oxygen.</p> <p>(b) Any building constructed on the landfill site is adequately ventilated.</p> <p>(c) The Permit Holder must place daily cover over the entire operational fill area to a depth of at least 150 mm by the end of each operating day. Daily cover material may comprise a mixture of sand, soil or mulched woody material or alternative daily cover options specified in the WasteMINZ Technical guidelines for the Disposal to Land (WasteMINZ, August 2018).</p>	<p>This condition has been amended significantly in December 2019. HDC has not yet finalised the updated LLMP and OMP, which I understand will give effect to this condition.</p> <p>(a) Compliant – Landfill gas monitoring is being undertaken in accordance with this condition and reported annually. The 2019/20 annual report provides monitoring results for July 2019, October 2019 and January 2020 monitoring rounds for methane, carbon dioxide and oxygen, as required by condition 4(a).</p> <p>(b) Compliant – I understand the only buildings on site are the main office and storage shed area, both of which have opening doors and or/windows.</p> <p>(c) Not assessed – The 2019/20 annual report does not assess compliance against this condition. HDC confirmed at the site visit that daily sand cover is being applied and I observed regular truck</p>	<p>Non-compliant, specifically with conditions (e), (i), (j), (n) and (p)</p>

Cond. #	Consent condition	TD Comments	Compliance status
	<p>(d) The Permit Holder must ensure that intermediate cover is placed as soon as practicable over daily cover for any area that will not receive additional lifts of waste or final cover for more than three months. The Permit Holder must apply intermediate cover no later than two weeks after the last application of daily cover. The Permit Holder will strive, at all times, to minimise the active areas of the landfill for the purpose of reducing odour generation.</p> <p>The depth of intermediate cover, including daily cover, over the waste shall be a minimum of 300 mm and must comprise of uncontaminated soil, and/or a mixture of sand and mulched woody material.</p> <p>The Permit Holder shall apply a temporary cap on top of the intermediate cover within three months of an area last receiving fill. The temporary cap shall comprise of a layer of compacted cohesive soil with a thickness of at least 200 mm for a combined thickness of 500 mm including the daily and intermediate cover. Alternatively, the temporary cap could comprise of a compacted layer of clay with a thickness of at least 50 mm that achieves the methane surface concentration requirements of condition 4f.</p> <p>Advice Note: This condition is additional to Condition 14c of Permit 6010, which addresses the final landfill cap (only). Some remediation of the temporary cap may be required to meet the requirements of Condition 14c.</p> <p>(e) The Permit Holder must carry out monthly methane</p>	<p>movements to and from the cover source. I note that the LLMP says daily cover of 100mm is to be applied and presume that the updated LLMP will require 150mm as required by condition 4(d).</p> <p>(d) Not assessed – The 2019/20 annual report also did not assess compliance with this condition. HDC confirmed that intermediate cover is being applied, and I observed cover along the perimeter of the active tip face. The LLMP requires intermediate cover at least 300mm, and I again presume this will be updated to reflect condition 4(d).</p> <p>(e) Non-compliant – The 2019/20 annual report says that HDC is arranging to have monthly monitoring undertaken by EnviroWaste, but that this has not yet commenced.</p> <p>(f) Not assessed – As The monitoring required by this condition has not yet been undertaken, compliance with condition 4(f) cannot be assessed.</p> <p>(g) As above.</p> <p>(h) Non-compliant – I observed at the site visit that the pump appeared to be disconnected and the biofilter disestablished. I am therefore of the understanding that the leachate chamber is not currently being vented to the biofilter.</p> <p>(i) Non-compliant – I am unaware of any annual assessments of the performance of the biofilter.</p> <p>(j) Non-compliant – The 2019/20 annual report includes an assessment against the requirements of condition 4(j) and notes that HDC is not complying with a number of the requirements, including daily inspections, weekly recordings on the pH of the bio-filter media and quarterly raking and loosening of bio-filter media.</p> <p>(k) Not assessed – The 2019/20 annual report states that weekly monitoring and recording of the bio-filter bed moisture content</p>	

Cond. #	Consent condition	TD Comments	Compliance status
	<p>surface monitoring for all areas of the landfill with a temporary or permanent cap, and the bio-filter bed. The monitoring of surface emissions for methane shall be undertaken utilizing emission testing methods that have been given prior written certification as to their appropriateness by the Manawatu-Wanganui Regional Council's Regulatory Manager. The monitoring of surface emissions shall not be undertaken during or immediately after heavy rainfall or during strong wind speed conditions, and the meteorological conditions at the time of the monitoring shall be provided in the monitoring report. Advice note: Favourable meteorological conditions for methane surface monitoring include those where weather and ground conditions are dry with less than 0.5 mm of rain having fallen for at least two days, and instantaneous wind speed should be less than 25 km per hour (ideally 5 to 10 km per hour).</p> <p>(f) Surface concentrations of methane, as determined by monitoring carried out by condition 4 shall not exceed the following trigger levels:</p> <ul style="list-style-type: none"> (i) 100 parts per million (ppm) for permanently capped areas (ii) 200 ppm for temporary capped areas: and (iii) 5,000 ppm for onsite buildings and structures. <p>An exceedance of the above levels requires remedial action to be undertaken within 24 hours and retesting within 24 hours of remediation being completed. If the second</p>	<p>and pressure is being undertaken, however no assessment is provided of compliance against condition 4(k). As some of this information is not being collected (e.g. pH), I am unable to assess compliance with this condition.</p> <ul style="list-style-type: none"> (l) Compliant – HDC has installed a flare in accordance with consent 106798. (m) Not assessed – I understand HDC has submitted a draft OMP to HRC in February 2020, which is within the timeframe required by this condition. However, the OMP was not finalised by the time of this assessment so I have been unable to assess compliance with this condition. (n) Non-compliant – I have reviewed NLG meeting minutes from 27 August 2019, 6 and 30 July 2020 and cannot see any clear indication that HDC has consulted with NLG regarding the draft OMP. (o) Not assessed – No OMP available. (p) Non-compliant – The 2019/20 annual report states that meteorological data is being collected in general compliance with this condition, except that data is being collected at 15 minute intervals and averaged to 1-hour time periods, as opposed to 1-min intervals and averaged to 10-min and 1-hour periods, as required by condition 4(p). (q) Non-compliant – As HDC is not collecting the information required to comply with condition 4(p), HDC is also non-compliant with condition 4(q). 	

Cond. #	Consent condition	TD Comments	Compliance status
	<p>round of testing results in a continued exceedance at the same location, then an action plan shall be developed and implemented to reduce methane concentrations below the specified levels. The Permit Holder shall provide details of the action plan to the Manawatu-Wanganui Regional Council within 48 hours of the retest.</p> <p>(g) The Permit Holder shall include records of surface emission monitoring for methane must be included in the Annual Report required by Condition 39 of Discharge Permit 6009 and must also be provided to Manawatu-Wanganui Regional Council on request</p> <p>(h) Within six months of the commencement date of the decision of the 2015 review of conditions, the leachate collection chamber must be vented to a bio-filter. The bio-filter must be designed by a suitably qualified and experienced person.</p> <p>(i) The Permit Holder must appoint an appropriately qualified person to undertake a comprehensive assessment of the bio-filter performance on an annual basis. The assessment shall include, but not be limited to, an evaluation of the media size distribution and composition and effectiveness in removing contaminants., and a review of any measurements or records relating to the parameters at (j) below.</p> <p>(j) The Permit Holder shall maintain the biofilter, in good working order, and shall measure and record the following parameters:</p>		

Cond. #	Consent condition	TD Comments	Compliance status
	<ul style="list-style-type: none"> • Daily visual inspection of the state of the bio-filter bed, particularly for signs of any short-circuiting, clogging of the bed, compaction and weed growth. • Daily inspection of the inlet gas fan and ductwork and any maintenance; • Continuous display of differential pressure for the biofilter fan discharge: • Weekly recording of pressure across the bio-filter bed: • Weekly monitoring and recording of the bio-filter media moisture content • Monthly monitoring and recording of the pH of the bio-filter media: • Quarterly raking and loosening of the biofilter media, or as otherwise required, to reduce the potential for short-circuiting, clogging of the bed, compaction and weed growth. <p>(k) The Permit Holder must ensure that the bio-filter and bed complies with the following limits at all times</p> <ul style="list-style-type: none"> • Pressure drop across the bio-filter air distribution system shall be less than 150-mm water gauge; • Bio-filter media moisture content shall be between 40-60% moisture content; • The air flow rate shall not exceed 35 m³/hr @25°C, 1 per cubic metres of bio-filter media; • The pH of the filter material shall be maintained at or above pH 4 in the lower 113rd layer of the 		

Cond. #	Consent condition	TD Comments	Compliance status
	<p>bed and at or above pH 5 in the upper 2/3rds layer of the bed.</p> <ul style="list-style-type: none"> • An even distribution of gas flow through the filter bed; and • There shall be no short circuits of untreated air through and filter bed. <p>(l) As soon as practicable and no later than 12 months of the commencement date of the 2015 review of conditions, the Permit Holder shall install a landfill gas collection system and flare on the site. The gas collection and flare shall be maintained and used at all times.</p> <p>Advice Note: HOC holds Discharge Permit 106798 for discharges from the flare.</p> <p>(m) Within 2 months of the commencement date of the 2015 review of conditions, the Permit Holder shall prepare an Odour Management Plan (OMP) and provide it to the Regional Council's Regulatory Manager for technical certification. The OMP must include:</p> <ul style="list-style-type: none"> (i) Material Design specifications and procedures for the application of daily and intermediate cover and temporary and final capping; (ii) Procedures for the documentation and handling of special and/or malodorous wastes (e.g. sewage sludge, animal carcasses); (iii) Methodology for monthly field odour monitoring; (iv) Methodology for monthly surface monitoring for 		

Cond. #	Consent condition	TD Comments	Compliance status
	<p>methane;</p> <p>(v) Methodology for bio-filter monitoring;</p> <p>(vi) Odour control practices relating to the leachate pond;</p> <p>(vii) Odour control practices for the working face of the landfill;</p> <p>(viii) Locations of odour control/treatment equipment (e.g. bio-filter and flare);</p> <p>(ix) The odour complaints investigation and recording procedure;</p> <p>(x) The phasing of the Landfill construction and operation (filling), including the design and collection efficiency of the existing and proposed gas collection system (GCS). This shall also include a description of the thickness and type of cover and capping material used at different phases of the landfill development;</p> <p>(xi) The operational procedures regarding the use of the bio-filter and the flare and GCS, including maintenance and breakdown procedures and methods to be followed to prevent a significant discharge of odour;</p> <p>(xii) The resource consent conditions relevant to discharges to air at the landfill;</p> <p>(xiii) Staff training requirements to ensure compliance with consent conditions;</p> <p>(xiv) Timing of audits and inspections and reporting to Council.</p> <p>(n) The Permit Holder must consult the NLG during the</p>		

Cond. #	Consent condition	TD Comments	Compliance status
	<p>development of the Odour Management Plan and at any time the OMP is reviewed. The views of the NLG must be incorporated where appropriate and practicable. Where the NLG comments and views are not incorporated, the outstanding issues, and reasons why they have not been incorporated, must be provided to Manawatu-Wanganui Regional Council's Regulatory Manager at the same time the Odour Management Plan is provided.</p> <p>(o) Subject to the conditions of consent. the Permit Holder shall carry out its operations in general accordance with the OMP;</p> <p>(p) The Permit Holder shall collect meteorological data from an on-site weather station. The data recorded shall consist of wind direction, wind speed, air temperature, barometric pressure, relative humidity and rainfall. The meteorological monitoring shall be: Collected in general accordance with the Good Practice Guide for Air Quality Monitoring and Data Management, Ministry for the Environment, 2009, or subsequent updates;</p> <p>(ii) Continuous for the duration of the consent comprising, 1 min data, collected and averaged to 10-min and 1-hour time periods;</p> <p>(iii) At a point that is representative of local wind conditions across the site;</p> <p>(iv) The wind speed and direction instrumentation shall be able to operate reliably down to a maximum wind speed threshold of 0.5 mis.</p>		

Cond. #	Consent condition	TD Comments	Compliance status
	(q) The Permit Holder shall provide the Manawatu-Wanganui Regional Council with information collected from the weather station referred to in condition 4(p). The data shall be in a suitable data file format that allows the Manawatu-Wanganui Regional Council to upload it on a data management system. The data shall be provided on a monthly basis, and as soon as possible upon request.		
6	There shall be no deliberate burning of waste or other material at the landfill. If fires occur at the landfill they shall be extinguished as quickly as possible.	Section 4.8 of the LLMP prohibits the lighting of fires at the landfill and states that burning loads will not be accepted for disposal. While undertaking this assessment I have not become aware of any incidences of burning waste or other material at the landfill.	Compliant.
7	<p>The Permit Holder shall keep a record of any complaints received. The complaints record shall include the following, where possible:</p> <ul style="list-style-type: none"> (i) Names and addresses of complainant; (ii) Nature of complaint; (iii) Date and time of the complaint and alleged event; (iv) Weather conditions at the time of the event; and (v) the activities that were occurring on the site at the time. <p>In response to a complaint and upon request by the Regional Council, the Permit Holder shall keep a record of the following information in its complaint record:</p> <ul style="list-style-type: none"> (vi) the cause or likely cause of the event and any factors that influenced its severity; (vii) Any action taken in response to the complaint including the nature and timing of any measures implemented by the permit holder to avoid, remedy 	HDC's complaints log for 2019/20 is contained within the 2019/20 annual report for the gas flare in accordance with discharge permit 106798, but not in annual reporting for this consent. The complaints log registered 5 complaints during this period. As discussed earlier in this report, HDC's complaints log does not include complaints received directly by HRC without notification also being given to HDC. I was not provided with a copy of HRC's complaints log for 2019/20 for comparison purposes, but understand several complaints were received from February to June 2020. I note that the complaints log records matters (i) to (vii). However, it does not comment on any future steps required to prevent re-occurrence. I also note that the complaints log is not included within the annual reporting for this consent, doing so would provide more transparency to the PMG, NLG and HRC.	Non-compliant

Cond. #	Consent condition	TD Comments	Compliance status
	<p>or mitigate any adverse effects; and.</p> <p>(viii) The steps to be taken in future to prevent re-occurrences of similar events should this be necessary.</p> <p>Complaint records shall be made available within 5 days of a request by the Regional Council</p>		
7	The Permit Holder shall take all practicable steps to avoid, remedy or mitigate significant adverse effects of the discharge of landfill gases to air.	The past two compliance reports (2017/18 and 2019/20) have assessed HDC as being compliant with this condition. HDC has been undertaking landfill gas monitoring in wells since January 2010. HDC has also recently implemented odour detection monitoring at the boundary in accordance with the new consent conditions. However, HDC is not complying with several conditions of this consent, particularly in relation to monthly methane monitoring and bio-filter inspection and maintenance requirements. These conditions were revised as part of the review of conditions, presumably to avoid, remedy and mitigate effects. On that basis, I have concluded that HDC is non-compliant with this condition.	Non-compliant
8A	The Permit Holder shall nominate a liaison person to manage any air quality complaint received. The name and contact details, which will include a land line telephone number, a cell phone number, and email address of the liaison person, shall be provided to the Manawatu-Wanganui Regional Councils Regulatory Manager. The Permit Holder shall ensure a liaison person is available to respond to odour or dust complaints in a reasonable manner as per condition 8B below.	The information I have reviewed (including NLG meeting minutes) does not include details of HDC's nominee for responding to complaints. I also note that this information is not published on HDC or HRC's websites. HDC has confirmed that this information will be provided in the future, however it has not been provided within the timeframe of this assessment.	Non-compliant
8B	The Permit Holder shall ensure any complaint received from a member of the general public regarding odour or dust originating from the landfill site is investigated as soon as practicable and within 24 hours of the complaint being	The complaints log records the date/time, details or complainant, possible cause, and action. The log does not capture when the complaint was investigated making it difficult to assess compliance with this condition.	Not assessed

Cond. #	Consent condition	TD Comments	Compliance status
	received, or at a time mutually agreeable with the party making the complaint.		
8C	The Permit Holder shall notify a Manawatu-Wanganui Regional Council Consents Monitoring Officer and the Mid-Central District Health Board's Medical Officer of Health as soon as practicable after becoming aware of any offensive or objectionable odour emanating beyond the boundaries of the landfill site. An explanation as to the cause of the incident, details of any remedial and follow-up actions taken and the wind speed and wind direction measured at the landfill at the time of the incident shall also be provided to the Regional Council Consents Monitoring Officer.	The complaints log does not indicate any findings of objectionable or offensive odour, therefore the procedure in condition 8C does not appear to have been implemented.	Not applicable
8D	The Permit Holder must undertake monthly field investigations of ambient odour at locations beyond the site boundary that are downwind of the landfill and located between the landfill and residential houses, until such time as discharges of refuse to the landfill ceases. Thereafter the frequency of investigations shall be determined in consultation with the Manawatu-Wanganui Regional Council. The monitoring shall be undertaken in accordance with good practice as specified in the Ministry for the Environment Good Practice Guide for Assessing and Managing Odour (MfE, 2016).	The 2019/20 annual report includes odour monitoring at the boundary (section 9.1) but not beyond the boundary. HDC has advised that monitoring beyond the boundary is not considered to be necessary given the distance from the landfill and the fact that it will require access to private property. This condition would have been included in the consent to avoid, remedy or mitigate adverse effects of odour, and HDC is non-compliant with the requirements of this condition. If HDC wishes to amend this condition, it must do so through the appropriate channels.	Non-compliant
8E	The Permit Holder consent holder must carry out a weekly walkover site inspection of all the landfill surfaces, including the area around the biofilter and leachate pond. The purpose of the walkover site inspection is to check for odour, cracks in the landfill surface and integrity of gas collection or leachate pipework.	HDC is undertaking weekly site walkovers and reporting on the findings of these. In future assessment I would expect to see that the updated LLMP will give effect to this condition.	Compliant

Cond. #	Consent condition	TD Comments	Compliance status
8F	The Permit Holder shall maintain a log of all other inspections, investigations and actions taken in accordance with all monitoring and odour inspection conditions of this consent. The inspection and investigation log shall be made available to the Manawatu-Wanganui Regional Council on request and submitted in a summary in the Annual Report.	The 2019/20 annual report includes a summary of the log of inspections, investigations and actions taken in accordance with this consent. The summary includes odour monitoring at the boundary, gas detection in groundwater, monitoring of surface emissions and the biofilter and meteorological data. The annual report also outlines actions to ensure ongoing compliance with consent conditions. I note however that the annual report does not include the complaints log required by condition 7, which I consider comes within the scope of condition 8F. HDC has advised that the complaints log was provided to HRC on request, however condition 8F specifically requires such information to be summarised in the annual report. I therefore consider HDC to be non-compliant with this condition.	Non-compliant
8	The Regional Council may initiate a publicly notified review of Conditions 4 and 7 of this permit during the month of October in 2024, 2029 and 2034. The reviews shall be for the purpose of: (a) Assessing the effectiveness of Conditions 4 and 7 of this consent in avoiding, remedying or mitigating adverse effects of discharges to air from the Levin Landfill (b) The review of conditions shall allow for changes and amendments to Conditions 4 and 7 of this consent to avoid, remedy or mitigate adverse effects of discharges to air from the Levin Landfill.	Not applicable until October 2024.	Not applicable



Consent 7289 – Discharge of liquid waste onto land

Cond. #	Consent condition	TD comments	Compliance status
1	Charges, set in accordance with section 36(1)c of the Resource Management Act 1991, and section 690 A of the Local Government Act 1974, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of this resource consent and for the carrying out of its functions under section 35 (duty to gather information, monitor, and keep records) of the Act.	I have not assessed compliance with this condition as part of this reporting.	Not assessed
2	Liquid wastes shall only be placed at the Levin Landfill as a contingency to normal disposal.	<p>Previous compliance reports (2017/18 and 2019/20) have assessed full compliance with this condition on the basis that the LLMP requires a hazardous waste log to be completed for any liquid waste and that the previous annual reports have indicated that no such logs were completed during the period. HRC has previously requested a copy of the hazardous waste log or special waste sheets to confirm compliance, however HDC has not been forthcoming.</p> <p>I have reviewed the LLMP and note that section 6.7 requires a special waste permit for the disposal of any liquid waste HDC to keep a record of liquid waste disposed of at the landfill. The 2019/20 annual report states that no applications for hazardous waste were received during this period. However, this does not specifically address liquid waste.</p> <p>HDC advised at the site visit that the landfill does not accept liquid waste. I have therefore assessed HDC as compliant on that basis, but consider that evidence is required in the annual reporting to confirm compliance with this condition.</p>	Compliant
3	For the purposes of this Permit, contingency conditions are circumstances where liquid waste is unable to be treated	As above, HDC has confirmed that landfill does not accept liquid waste.	Not applicable

Cond. #	Consent condition	TD comments	Compliance status
	and disposed of at its regular location, for reasons of either, unforeseen events, breakdown or temporary closure for maintenance purposes		
4	<p>Liquid wastes are defined as the following:</p> <ul style="list-style-type: none"> a. Septic tank waste (“septage”); b. Grease trap waste; c. Sewage; and d. Any material that contains free liquids. <p>The presence of free liquids may be determined by either of the following methods, whichever is most practicable at the time:</p> <ul style="list-style-type: none"> i. The “Paint Filter Test”; or ii. Material which may be located, transported and deposited at the landfill without the risk of free liquid seeping from the material, and without the risk of having the deposited material flow under gravity down any slope on the landfill shall be deemed to not contain free liquids. 	Liquid waste is defined in section 6.3 of the LLMP in accordance with Condition 4.	Complies
5	<p>The Permit Holder shall notify the Regional Council’s Regulatory Manager as soon as practicably possible after receiving notification of the intention to dispose of waste at the landfill under the terms of this consent, or as soon as practicable following urgent disposal in accordance with Condition 3.</p> <p>The Permit Holder shall detail the reason for the discharge, volume of discharge and timing of the discharge.</p> <p>Each nominated member of the Neighbourhood Liaison Group shall be notified in writing by post.</p>	I am unaware of any notifications made to HRC regarding liquid waste.	Not applicable.
6	The maximum annual volume of liquid waste discharged shall not exceed 150 cubic metres (150 m3) in any calendar	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable

Cond. #	Consent condition	TD comments	Compliance status
	year. (Calendar year is defined as being over any 12 month or 365-day period.)		
7	Subject to Condition 6, the volume of liquid waste discharge shall not exceed 75 cubic metres (75 m ³) during any seven-day period.	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
8	Subject to Condition 6 and 7 the maximum daily volume of liquid waste discharged shall not exceed 20 cubic metres (20 m ³).	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
9	The liquid material shall be placed in trenches which are no more than 2m wide, 1.5m deep and 5m long which are excavated in compacted refuse which is at least six months old and located within a lined landfill area.	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
10	Only one trench shall be open at any one time.	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
11	Trenches shall be at least 10 metres from any landfill batter slope.	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
12	The open trench shall be open for no longer than two weeks	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
13	Trenches shall be filled with liquid wastes to a depth of not less than 1m below the prior refuse surface level and reinstated with appropriate compaction with previously removed refuse and cover.	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
14	The location of placement and cumulative volume will be identified on a site plan which shall be made available to the Regional Council upon request.	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
15	The location and placement shall be appropriately signed and fenced.	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
16	The Permit Holder will ensure odours, vermin and flies are	As HDC has advised that it is not disposing of liquid waste at the landfill, this	Not applicable

Cond. #	Consent condition	TD comments	Compliance status
	not generated from or do not accumulate in open trenches.	condition is not applicable.	
17	The Permit Holder shall maintain records of: <ul style="list-style-type: none"> a. The type of liquid waste received; b. The volume of liquid waste received; c. The source of liquid waste; and d. The location in the landfill in which the material was placed 	As HDC has advised that it is not disposing of liquid waste at the landfill, this condition is not applicable.	Not applicable
18	In addition to the material that is accepted on the basis set out above, the consent holder may dispose of site-generated sludges that contain free liquids from cess-pits, leachate ponds or other site activities to facilitate site operation, provided this does not adversely affect landfill stability or face operations. The disposal of such materials is not to be included within the quantity restrictions as set out in Conditions 6, 7 and 8 of this permit.	This information is not captured in the annual reporting. HDC has advised that the landfill does not dispose of any site generated sludge given the leachate pond is bypassed. I have assessed HDC as complying based on this advice.	Compliant
19	The Regional Council may initiate a publicly notified review of Conditions 5, 9, 12 and 17 of this permit during the month of October in 2024, 2029 and 2034. The review shall be purpose of: <ul style="list-style-type: none"> a. Assessing the adequacy of the monitoring conditions outlined in Conditions 5 and 17; and b. Assessing the effectiveness of Conditions 9 and 12 of this consent, in avoiding, remedying or mitigating adverse effects on the environment surrounding the Levin Landfill. The review of conditions shall allow for the: <ul style="list-style-type: none"> c. Modification of monitoring outlined in Conditions 5 and 17; d. Changes to Conditions 9 and 12 of this consent; and 	This condition is not applicable until October 2024.	Not applicable.

Cond. #	Consent condition	TD comments	Compliance status
	e. Addition of new conditions if necessary, to avoid, remedy or mitigate adverse effects on the environment surrounding the Levin Landfill.		



Consent 102259 – Discharge of stormwater to land and potentially to groundwater via soakage

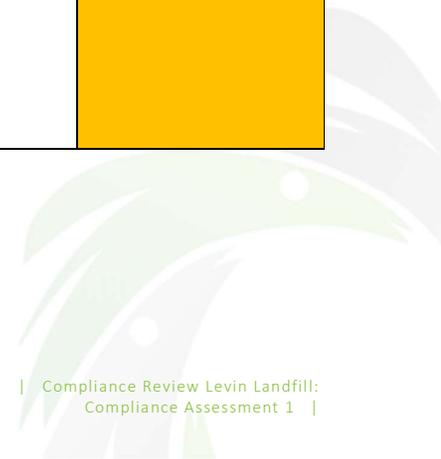
Cond. #	Consent condition	TD comments	Compliance status
1	This Permit shall be for a term of 35 years from the date of commencement of Levin Landfill Consents 6009 – 6011 and 7289.	Consent still within term.	Compliant
2	Pursuant to section 125(1) of the Resource Management Act 1991, this Permit shall not lapse within its duration of 35 years.	Consent has not yet lapsed.	Not applicable.
3	The activities authorised by this Permit shall be restricted to the discharge of stormwater to land via ground soakage originating from the existing fill site or any part of the new lined landfill that has had, or is intended to have, refuse placed beneath or upon it, as shown on Plan C102259 attached to and forming part of this Discharge Permit.	HRC has previously assessed full compliance with this condition (2017/18 compliance report). The LLMP (section 5) details stormwater management on the site and confirms that stormwater management includes stormwater from the existing and new landfill sites.	Compliant
4	All works and structures relating to this Discharge Permit shall be designed and constructed to conform to best engineering practices and shall at all times be maintained to a safe and serviceable standard.	HRC compliance reports (2017/18 and 2018/19) indicate that the various stormwater drains on site have been maintained to a serviceable standard. While I was able to observe stormwater structures at the site visit, I am not in the position to conclude whether these are designed, constructed and maintained to best engineering practices. HDC is not reporting on compliance with this condition.	Not assessed
5	The Permit Holder shall inspect the stormwater system once a day when the site is in use to ensure the speedy recovery of any litter or refuse and shall remove any litter as soon as practicable.	This condition was amended as part of the 2015 review to require daily inspections. The current LLMP says inspections are undertaken monthly. I assume the revised LLMP will reflect the requirement for daily inspections. However, the LLMP was not finalised during this assessment period so I have been unable to confirm compliance with this condition.	Not assessed
6	The Permit Holder shall ensure the stormwater soakage ponds are inspected regularly and maintained to optimise their performance at all times. This shall include de-sludging	The LLMP does not specify how regularly stormwater soakage ponds are to be inspected. HRC has previously recommended the LLMP be updated to ensure compliance with this condition. HDC has confirmed that the updated	Not assessed

Cond. #	Consent condition	TD comments	Compliance status
	or remediating the ponds as required.	LLMP will reflect this advice.	
7	Deleted	N/A	N/A
8	There shall be no runoff or existing discharge of stormwater beyond the property boundary that has originated on any landfill area or new lined landfill area that has had, or is intended to have, refuse placed on it.	HRC has previously assessed compliance with this condition (2017/18 compliance report). The site plans provided in Appendix C of the 2019/20 annual report show that stormwater is discharged to a central inter-dine depression located to the west of the access road leading to the lined landfill area. From here it soaks to groundwater. HDC confirmed at the site visit that stormwater falling on the operational landfill area soaks to ground and is treated as leachate, which is discharged to the Levin WWTP.	Compliant
9	As far as practically possible, the Permit Holder shall ensure that all stormwater from the existing landfill area is directed to the centralised soakage area as shown on the latest version of the Stormwater Plan.	The site plans provided in Appendix C of the 2019/20 annual report show that stormwater is discharged to a central inter-dine depression located to the west of the access road leading to the lined landfill area.	Compliant.
10	Where it is practical and economical to do so, the Permit Holder shall ensure that within the operational landfill cell the minimum amount of stormwater shall be allowed to come into contact with refuse. This shall be affected by constructing impermeable barriers, diversion drains or bunds on the side slopes and within the base of the landfill.	As already mentioned, all stormwater falling on the active landfill is managed as leachate.	Compliant.
11	There shall be no contamination of stormwater with leachate. Leachate includes any stormwater within an operational cell that is not separated from refuse by a barrier as defined in Condition 10.	HRC has previously assessed a minor non-compliance with this condition due to a small breakout being recorded in 2017. I understand HDC has since made upgrades to the system to HRC's approval. The 2019/20 annual report does not record any incidences of leachate breakouts in the stormwater and concludes that the stormwater system is not impacted groundwater quality.	Compliant
12	The Permit Holder shall ensure that a suitable stormwater soakage area is available for a given design storm and the area of the operational cell from which the stormwater is collected.	My understanding is that all stormwater landing on the operational cells at the landfill is discharged to land and collected as leachate, before being pumped to the WWTP. This is confirmed in section 5.1 of the LLMP, which states that the rainfall on the operational area shall be contained and soaked into the surface of that area and shall be managed as leachate.	Compliant.

Cond. #	Consent condition	TD comments	Compliance status
13	Areas designated for stormwater discharge to land and their catchment and reticulation system shall be identified and located on site plans and their dimensions submitted for approval by Horizons' Team Leader Compliance prior to their use.	HRC has previously assessed HDC as being compliant with this condition. This condition is therefore no longer applicable.	Not applicable.
14	The Permit Holder shall monitor groundwater quality in at least one upgradient and one downgradient bore of the existing landfill stormwater soakage area, and at least one upgradient and two downgradient bores of the new landfill area. The location and number of bores is to be determined in consultation with Horizons' Team Leader Compliance. Groundwater samples shall be taken quarterly in January, April, July and October for the term of this Discharge Permit, beginning in October 2002, and analysed for the following parameters: <ul style="list-style-type: none"> • PH • Conductivity • Ammonia-N • Nitrate-N • Sodium • Boron • Chloride • Iron 	The 2019/20 annual report confirms that HDC is undertaking quarterly monitoring of 6 bores for stormwater parameters, the results of which are presented in Section 8.	Compliant
15	Monitoring bores required in Condition 14 of this Discharge Permit can be incorporated into the monitoring programme of other Levin Landfill Consents (6009-6011 and 7289), providing the information sought is obtained at the frequency specified and reported as required for this Permit.	The 2019/20 annual report confirms that monitoring of the relevant bores is incorporated into the monitoring programme for all consents.	Compliant.

Cond. #	Consent condition	TD comments	Compliance status
16	The results of monitoring under Condition 14 of this permit shall be reported to Horizon Manawatu's Team Leader Compliance by 31 August each year for the duration of this Permit beginning 31 August 2003. The annual report shall be supplemented by the raw water quality analysis data being forwarded to the Regional Council as soon as practically possible following the receipt of laboratory analysis certificates.	Results of monitoring required in Condition 14 are reported annually to HRC in the annual report. I note that under the revised conditions of all consents, annual reporting is required by 30 September (not 31 August). This condition has not been revised, so the 2019/20 report was technically delivered late, however I consider this to be an oversight in the review process.	Compliant.
17	If a laboratory is used for water quality analyses which does not have independent accreditation for the parameters measured, then on each sampling occasion duplicate samples from at least one sampling location shall be analysed by a laboratory with independent accreditation for the parameters measured. Continued analysis by the unaccredited laboratory shall be at the discretion of horizons.mw.	All water samples were analysed by Eurofins ELS Limited, which is an accredited laboratory.	Compliant
18	Should any groundwater parameters tested for under Condition 14 of this consent exceed the Australian and New Zealand Environment and Conservation Council Water Quality Guidelines (2000) for Livestock Watering, the Permit Holder shall report to Horizons' Team Leader Compliance as soon as practicable on the significance of the result, and where the change can be attributed to the landfill operation, consult with Horizons' Team Leader Compliance to determine if further investigation or remedial measures are required.	The 2019/20 annual report shows compliance of all wells against the ANZECC LW values. The procedure in Condition 14 has therefore not been exercised.	Not applicable
19	The Regional Council may initiate a publicly notified review of all conditions of this Permit during the month of October in 2024, 2029 and 2034. The reviews shall be for the	Not applicable until October 2024	Not applicable

Cond. #	Consent condition	TD comments	Compliance status
	<p>purpose of:</p> <ul style="list-style-type: none"> (i) reviewing the effectiveness of these conditions in avoiding or mitigating any adverse effects on the environment; and/or (ii) reviewing the adequacy of the monitoring programme required by this discharge permit. <p>The review of conditions shall allow for:</p> <ul style="list-style-type: none"> (i) the deletion or amendment to any conditions of this permit; and (ii) the amendment or addition of new conditions as necessary to avoid, remedy or mitigate any adverse effects on the environment. If necessary and appropriate, the review provided for under this condition shall require the Permit Holder to adopt the best practicable options to avoid, remedy or mitigate any significant adverse effects on the environment. 		
20	<p>Charges, set in accordance with section 36(1)c of the Resource Management Act 1991, and section 690 A of the Local Government Act 1974, shall be paid to horizons.mw for the carrying out of its functions in relation to the administration, monitoring and supervision of this resource consent and for the carrying out of its functions under section 35 (duty to gather information, monitor, and keep records) of the Act.</p>	I have not assessed compliance with this condition as part of this reporting	Not assessed





THE CATALYST GROUP

planning and environment

p. +64 6 358 6300

e. enquiries@thecatalystgroup.co.nz

a. Level 3, 31 George Street,

PO Box 362, Palmerston North

www.thecatalystgroup.co.nz