

BEFORE THE ENVIRONMENT COURT

Decision No: [2016] NZEnvC 043

IN THE MATTER of appeals under s120 of the
Resource Management Act 1991

BETWEEN WASTE MANAGEMENT NZ LIMITED
ENV-2014-AKL-000220
Appellant

AND N DE WITTE and REDVALE
ENVIRONMENTAL PROTECTION
SOCIETY INCORPORATED
ENV-2014-AKL-000224
Appellants

AND AUCKLAND COUNCIL
Respondent

Court: Environment Judge B P Dwyer

Commissioners D J Bunting and A J Sutherland

Appearances: S Simons and H Philip for N De Witte and Redvale Environmental
Protection Society Incorporated

C Somerville and J Gregory for Waste Management NZ Limited

M Wakefield for Auckland Council

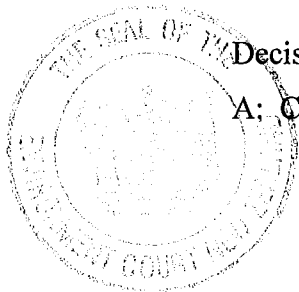
Heard: in Auckland 6 – 9 July 2015

Final submissions filed on 29 July 2015

FINAL DECISION ON APPEALS

Decision Issued: 11 MARCH 2016

A: Conditions approved



Introduction

[1] On 20 October 2015¹ the Court partially allowed appeals by Waste Management NZ Ltd (Waste Management) and N De Witte and the Redvale Environmental Protection Society Incorporated (the Joint Appellants) directing amendments to the conditions of consents granted to Waste Management by the Auckland Council (the Council) allowing the continued operation of the existing Redvale Landfill. The consents allow:

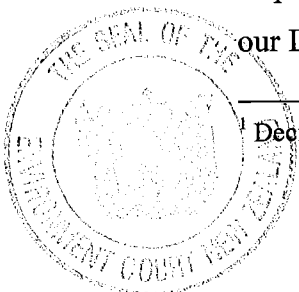
- The discharge of contaminants to land or water from an open landfill;
- The diversion and discharge of stormwater from landfill operations and associated activities;
- The discharge of contaminants onto or into air and/or water from an industrial or trade activity area;
- Taking up to 20 m³/day of groundwater for ground dewatering, during construction of the Redvale Landfill Site, for the long-term diversion of groundwater around the completed landfill site and to take up to 6m³ of groundwater through liner wall leakage, in the long-term;
- Undertaking approximately 59ha of earthworks.

[2] We directed the Council to prepare and forward to all parties and the Court within 15 working days of our Interim Decision an amended copy of the conditions of consent, reflecting the views which we had expressed as to the appropriate conditions. We gave the other parties five working days from receipt of same in which to file any comments on any typographical or layout errors (but not as to the merits) in the conditions.

[3] The Council lodged amended conditions on 11 November 2015. The Joint Appellants lodged memoranda in response on 18 November 2015.

[4] We have considered the Council's explanation of the amendments and the Conditions. We accept the Council's reasons for the amendments it has made in response to the Interim Decision and find that the amended Conditions give effect to our Decision except in one minor respect.

Decision No: [2015] NZEnvC 178.



[5] At para [159] of our Interim Decision we concurred with the amendment proposed by Waste Management to Condition 22 to provide that a hard copy of the LMP will be brought to any CLC meetings. This amendment had not been included in the Council's version of conditions, so the Court has itself amended Condition 22 to provide that a hard copy of the LMP will be brought to any CLC meetings.

Further amendments

Condition 6

[6] The Joint Appellants noted that Condition 6 needs amending to add the correct Court appeal reference numbers. That has been done.

Condition 9

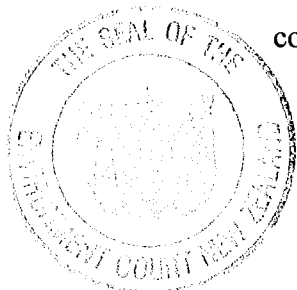
[7] Waste Management suggested that in the Advice Note to Condition 9 the words *the consent* be replaced with the words *the permits identified in Condition 9*. The Court accepts that this proposed amendment makes the condition clearer. The Conditions attached to this decision have been amended accordingly.

Condition 27E

[8] Waste Management suggests that the first Advice Note to Condition 27E be amended by adding a cross reference, to read *required by Condition 27G after complaints procedure*. This amendment aids clarity and has been made.

[9] Waste Management also noted that the second Advice Note to Condition 27E contains a typographical error – *consent holders* should be *consent holder's*. That has been amended.

[10] The Joint Appellants asked that Condition 27E be altered by amending the fifth bullet point to change the word *allow* to *prompt*. The relevant part of the fifth bullet point would then read... *In the case of odour complaints, the online form shall prompt the complainant to record ...* In our view the proposed amendment at best constitutes tinkering and the condition should remain as drafted.



[11] The Joint Appellants also asked that Condition 27E be amended by adding an Advice Note that reads:

Advice Note: The community webpage should be constructed in a way such that it will be user friendly and easy to access on mobile technology.

It is not clear what precisely is required in order to comply with the proposed Advice Note (to the extent that compliance with an advice note is required). The Court declines to make this amendment.

Condition 66

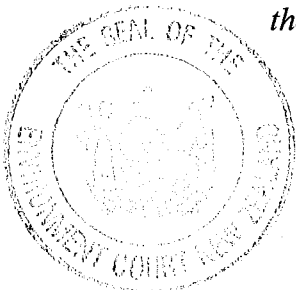
[12] The Joint Appellants asked that the Advice Note be amended to refer to the Good Practice Guide by adding the words ... *and shall be in accordance with Chapter 4.3 of the Good Practice Guide for Assessing and Managing Odour in New Zealand or any other guidance which supersedes that document unless otherwise provided for in these conditions.*

This amendment directs the Council and the consent holder to use a particular method to assess odour complaints. It also incorporates into the consent *any other guidance* which supersedes that document. The Advice Note already refers to the FIDOL factors. It is unnecessary and inappropriate to further purport to control the Council's methods of assessing odour complaints, especially by reference to guidance which does not yet exist and may be inappropriate to the circumstances. The Court does not consider it appropriate to circumscribe the Council's enforcement role in such a manner.

Condition 67

[13] The Joint Appellants also asked that the Advice Note to this Condition be amended to add a sentence referring to the Good Practice Guide as follows:

The process for assessing odour complaints by Auckland Council or the consent holder shall be in accordance with Chapter 4.3 of the Good Practice Guide for Assessing and Managing Odour in New Zealand or any other guidance which supersedes that document unless otherwise provided for in these conditions.



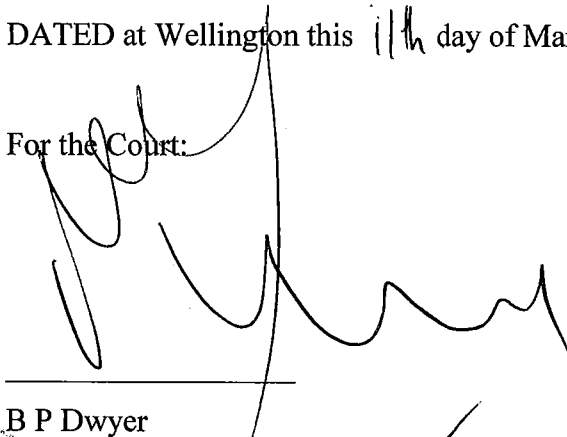
This amendment similarly directs the Council and the consent holder to use a particular method to assess odour complaints. Again, the Court finds that it is unnecessary and inappropriate to make this amendment.

Order

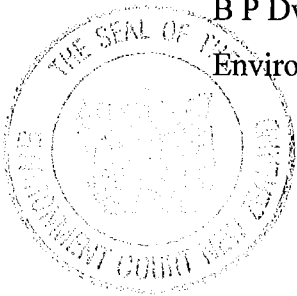
[14] The appeals are each formally allowed in part, to the extent necessary to allow the amendments to Conditions directed in this and the Court's Interim Decision. The Court orders that resource consents and permit numbers LAN61338 (NRSI 42575), REG61341 (NRSI 42369), REG61342 (NRSI 42570), REG61343 (NRSI 42572), REG61544 (NRSI 42574) are subject to the Conditions attached.

DATED at Wellington this 11th day of March 2016.

For the Court:



B P Dwyer
Environment Judge



Redvale Landfill Conditions

CONDITIONS

Under section 108 of the Resource Management Act 1991, these consents are subject to the following conditions:

General Conditions for resource consents and permit numbers LAN61338 (NRSI 42575), REG61341 (NRSI 42369), REG61342 (NRSI 42570), REG61343 (NRSI 42572), REG61544 (NRSI 42574)

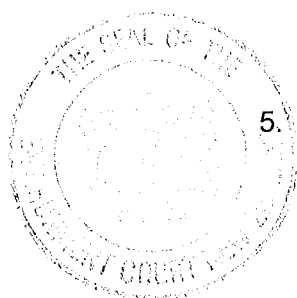
1. The landfill and associated activities shall be carried out in accordance with the plans and all information submitted with the application, detailed and referenced by Council as LAN61338, REG61341, REG61342, REG61343, and REG61544 (NRSI 42369 discharge contaminants, NRSI 42570 diversion and discharge of stormwater, NRSI 42572 ground water take, diversion and discharge, NRSI 42574 Industrial and trade activity and NRSI 42575 earthworks).

All Charges Paid

2. This consent (or any part thereof) shall not commence until such time as the following charges, which are owing at the time the Auckland Council's decision is notified, have been paid in full:
 - (a) All fixed charges relating to the receiving, processing and granting of this resource consent under section 36(1) of the RMA; and
 - (b) All additional charges imposed under section 36(3) of the RMA to enable the Council to recover its actual and reasonable costs in respect of this application, which are beyond challenge.
3. The consent holder shall pay any subsequent further charges imposed under section 36 of the RMA relating to the receiving, processing and granting of this resource consent within 20 days of receipt of notification of a requirement to pay the same, provided that, in the case of any additional charges under section 36(3) of the RMA that are subject to challenge, the consent holder shall pay such amount as is determined by that process to be due and owing, within 20 days of receipt of the relevant decision.

Monitoring Charges

4. The consent holder shall pay the Auckland Council an initial consent compliance monitoring charge of \$810 (inclusive of GST), plus any further monitoring charge or charges to recover the actual and reasonable costs that have been incurred to ensure compliance with the conditions attached to this consent. These charges are to cover the cost of inspecting the site, carrying out tests, reviewing conditions, reviewing monitoring results, updating files, etc, all being work to ensure compliance with the resource consents LAN61338, REG61341, REG61342, REG61343, and REG61544. Such further charges are to be paid within one month of the date of the invoice. Please note should additional monitoring occur on the land use consent these will be charged accordingly.
5. The \$810 (inclusive of GST) charge shall be paid as part of the resource consent fee and the consent holder will be advised of the further monitoring charge or



charges as they fall due. Such further charges are to be paid within one month of the date of invoice.

Advice Note:

Compliance with the consent conditions will be monitored by Auckland Council (in accordance with section 35(d) of the RMA). The initial monitoring charge is to cover the cost of inspecting the site, carrying out tests, reviewing conditions, updating files, etc, all being work to ensure compliance with the resource consent. In order to recover actual and reasonable costs, inspections, in excess of those covered by the base fee paid, shall be charged at the relevant hourly rate applicable at the time. Only after all conditions of the resource consent have been met, will Auckland Council issue a letter on request of the consent holder.

Lapse period

6. Under section 125 of the RMA, this consent lapses 12 months after the date the Environment Court issues its final determination on the appeals ENV-2014-AKL-220 and 224 for this resource consent unless:
 - (a) The consent is given effect to; or
 - (b) The Auckland Council extends the period after which the consent lapses.

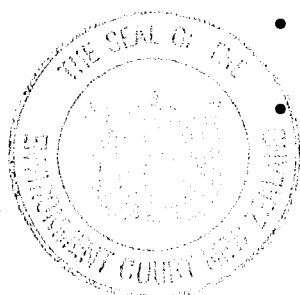
Commencement

7. These consents commence upon written notice given by the consent holder to Auckland Council and upon the surrender of the relevant existing land use and discharge consents, both within the 12 month period provided for in **Condition 6** (above).

Advice Note:

The consents to be surrendered are expected to include:

- TPA-900193 (granted 13/10/92) – land use consent for operation of a landfill.
- TPA-900193B (granted 20/02/09) change to condition 1 and 19(i) of existing land use consent.
- RMA35811 (granted 19/05/04) – replacement of condition 19(iv) of existing land use consent to allow for increase in truck movements up to 650 a day and addition of condition 2 requiring signs.
- L35811/A (granted 06/07/12) – change of Condition 24(iii) of existing land use consent and consequential approval of Structure Planting Plan revision 5C.
- L55567 (granted 03/08/10) – Land use conditions only (not boundary relocation conditions).
- Permit numbers 21060, 21061, 21062 and 21063 to divert, dam and discharge stormwater and silt to the Rangitopuni Stream via ponds 1, 2, 3 and 4 respectively.
- Permit 21064 – to take surface water from four sedimentation ponds for on-site use.
- Permit number 21065 – to take groundwater from below the landfill.



- *Permit 21067 – to discharge leachate from a non-hazardous wastes landfill to ground soakage.*
- *RMA31933 – to construct and operate a leachate evaporator system and Landfill gas generation plant.*
- *L31933A – variation to leachate recirculation.*

Duration / Timeframe

8. All landfilling on the site shall cease on 31 December 2028. This limitation does not apply to final restoration works.
9. REG61341, REG61342, REG61343, and REG61544 shall expire on 31 December 2028 unless lapsed, surrendered or cancelled at an earlier date.

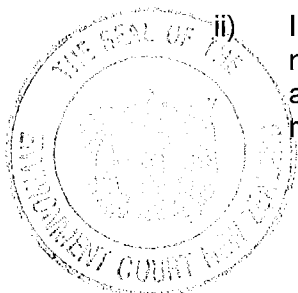
Advice Note: *New permits (but not land use consent) will be necessary after the expiring of the permits identified in Condition 9, as restoration works and ongoing discharges will likely occur beyond this time limit.*

Review

10. The conditions of this consent may be reviewed by the Auckland Council pursuant to section 128 of the RMA (with the costs of the review process being borne by the consent holder), by the giving of notice, pursuant to section 129 of the RMA, in November 2016 and annually thereafter.

The purpose of the review may be for any of the following purposes, namely:

- i) To deal with any adverse effect on the environment which may arise from the exercise of the consent or upon which the exercise of the consent may have an influence and which becomes apparent, or it is found appropriate, to deal with at a later stage, and in particular but without limiting the ambit of this clause to:
 - (a) insert conditions, or modify existing conditions, to require the consent holder to identify the character or nature of any discharges authorised by this consent and to report the results of that monitoring to the Auckland Council; and/or
 - (b) insert conditions, or modify existing conditions, to require the consent holder to monitor the effects of any activities and / or discharges authorised by this consent on the local receiving environment and to report the results of that monitoring to the Auckland Council;
 - (c) address the matters contained in section 108(4) of the RMA or any Act in substitution thereof.
- ii) Insert conditions, or modify existing conditions, to remedy, mitigate or minimise any adverse effects on the environment resulting from any activities and / or discharges authorised by this consent, including remedying or mitigating any adverse effect on the environment which may



arise from the exercise of the consent and which it is appropriate to deal with at a later stage.

Advice Note:

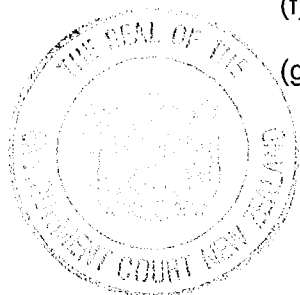
For the avoidance of doubt, in considering whether the conditions of consent should be reviewed, Auckland Council may take into account any information which it considers relevant, including, but not limited to, any record of complaints.

General

11. Access to the relevant parts of the property shall be maintained and be available at all reasonable times to enable the servants or agents of the Auckland Council or other persons authorised or requested by it to carry out reviews, monitoring, inspections, surveys, investigations, tests, measurements or take samples whilst adhering to the consent holder's health and safety policy.

Peer Review Panel

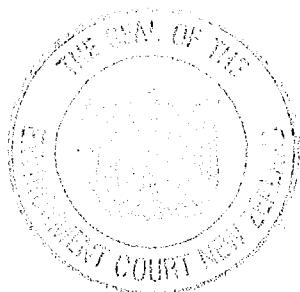
12. The consent holder shall establish and maintain a Peer Review Panel (PRP) at its cost. The objective of the PRP will be to ensure that the design, construction, operation and maintenance of the landfill are consistent with the requirements of the conditions of these consents and good practice and that the work is undertaken by appropriately qualified personnel.
13. The PRP shall consist of a maximum of five members and a minimum of two with appropriate technical skills and qualifications to be appointed by the consent holder following consultation between the consent holder, Auckland Council and any Community Liaison Committee (CLC) established in accordance with this consent (**Condition 27**). One of the members of the PRP shall be appointed as the nominee of the CLC and shall be available to consult with the CLC at all reasonable times. The consent holder shall consult with the CLC as to the appropriate member of the PRP to fulfil this role.
14. The consent holder shall provide a report from the PRP at six monthly intervals ending 31 March and 30 September each year to the Auckland Council, on the following matters as relevant to each report period:
 - (a) final design of areas completed;
 - (b) construction undertaken;
 - (c) lining system performance and design of any new lining system installed;
 - (d) approvals given by the PRP for any activity for which their approval is required in accordance with this consent;
 - (e) gas monitoring at the boundary, on the landfill cover, and at wellheads;
 - (f) groundwater, surface water and leachate level monitoring programme.
 - (g) More frequent reporting or special reports shall be made as determined by the Auckland Council or the PRP.



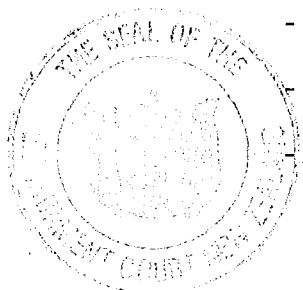
15. The results of all monitoring tests shall be reported to the PRP monthly. These tests shall include, but not be limited to, the following:-
- (a) Liner and final cover: Visual evaluation. In-situ and laboratory testing.
 - (b) Landfill Gas: Well head vacuum monitoring. Boundary gas monitoring well evaluation. Monitoring for landfill gases at up to four designated points on the landfill's final cover surface, to the satisfaction of the PRP.
 - (c) Groundwater, Surface water and Leachate level monitoring: in accordance with the conditions of these consents.
 - (d) Monitoring of land movement.
 - (e) General: Brief summary of failures or events contrary to the Landfill Management Plan and the actions taken to alleviate the consequences (including but not limited to fires, slope failures, liner failures or damage, dumping of toxic or hazardous wastes, failures or blockages of the leachate collection and gas extraction systems).
16. The consent holder shall construct the works generally in accordance with the design concept, as described in the plans in Schedule 2. The final landfill design and any more than minor modifications to the design or methodology chosen for operation and construction of the landfill, shall require the approval of the PRP and the Auckland Council prior to implementation. The consent holder shall consult with the CLC on any more than minor modifications.
17. The consent holder shall ensure that daily records are kept of any site investigations for any engineering works associated with all consents granted for the landfill operation and that these records are forwarded monthly to the PRP.
18. The consent holder shall retain an independent liner testing organisation to the satisfaction of the PRP to monitor the lining of the landfill and carry out the regular testing of the liner as set out in the Engineering Design Report (dated December 2013 and accompanying the application as Technical Report A), prepared by Tonkin and Taylor.

Landfill Management Plan

19. The consent holder shall prepare and maintain, with the approval of the PRP and the Auckland Council, an overall Landfill Management Plan (LMP), the basis of which shall be the Landfill Management Plan approved by the Auckland Council on 19 December 2013, but incorporating any amendments required as a result of the conditions of these consents.
20. The LMP shall address:-
- The stages and order of landfill development.
 - Right of use of the landfill.
 - Traffic management.
 - Erosion and sediment management.



- Construction and testing of the liner.
- Monitoring procedures.
- Gas, leachate and water management.
- The method of disposal of leachate.
- Types of waste to be accepted.
- Restricted and prohibited materials.
- Methodology of monitoring type of refuse accepted.
- Methods of placing refuse.
- The width of the working surface in relation to the rate of refuse deposition.
- Methods of handling special wastes, including biosolids.
- Nuisance control procedures.
- Pest control plan.
- Emergency procedures.
- Contingency plans.
- Community liaison.
- Height and timing of bund construction.
- Final height, shape and contours of the land, in accordance with the plans in Schedule 2.
- Odour management, including best practice methods to manage odour.
- Complaints response procedure for odour effects beyond the notional odour boundary.
- The method for odour patrols and odour field inspections, including managing the risk of desensitisation.
- Landscape amelioration, maintenance and restoration work.
- Technique and programming of land restoration.
- Leachate Monitoring and Contingency Plan
- Environmental Management Plan
- Stormwater Monitoring and Contingency Plan
- Monitoring and records.
- After-care.



- Such other matters as considered appropriate from time to time by the PRP or the Auckland Council.

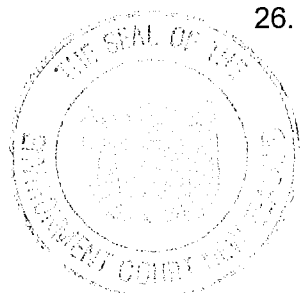
21. The LMP, when approved, shall be adhered to at all times.
22. The LMP shall be subject to review annually from the date of commencement of the land use consent LAN61338, such review to include assessment of the performance of the practices and procedures specified in it. Any amendment required by the PRP and the Auckland Council arising out of this review and/or the reporting stipulated in **Condition 14** shall be incorporated into the LMP without delay. The consent holder shall lodge a copy of the approved LMP with the Auckland Council and a hard copy shall be made available at the Landfill during office hours and at CLC meetings for use by the CLC. Auckland Council may waive the annual review requirement for that year if no amendments are required by the PRP and Auckland Council.

Site Emergency Management Plan

23. The consent holder shall prepare and maintain a Site Emergency Management Plan. Advice of the existence of this Plan, and information on how to obtain a copy, shall be provided by the consent holder to the Auckland Council and other appropriate organisations such as the NZ Fire Service and District Health Board.

Operations

24. The consent holder shall ensure that all staff supervising the operation of the Redvale Landfill have been trained in the design concept, consent conditions and contingency plans, and that refresher training be attended annually.
25. The consent holder shall ensure that records are retained of all constructional, operational and monitoring activities of the Redvale Landfill and that those records can, upon request, be provided in either hard or soft copy to Auckland Council. Records shall include:
 - (a) Location of all main drains and other services
 - (b) Special burials
 - (c) Quantities of all refuse cover, roading and other materials used on site
 - (d) Base levels before placement of refuse
 - (e) Degrees of settlement of refuse
 - (f) Soil tests
 - (g) Water monitoring records.
 - (h) Weather station data.
26. The consent holder shall ensure that any natural ground surfaces or filled surfaces upon which engineering works are to be constructed are not unstable and/or likely to fail in such a way that will impair the performance of the engineering works.



Redvale Landfill Community Liaison Committee

27. The consent holder shall maintain and provide reasonable support and resources to the Redvale Landfill Community Liaison Committee (CLC) in order to enable the CLC to carry out its role for the operating life of the landfill, in consultation with representatives of local residents, tangata whenua, and the Auckland Council.

Role of CLC:

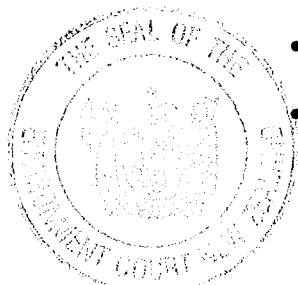
27A. The role of the CLC shall be to:

- establish and maintain a forum for communication between the consent holder and the community surrounding Redvale Landfill;
- disseminate information about Redvale Landfill, to the local community;
- hear the concerns of residents and people working in proximity to the landfill, and to review complaints;
- hear and recommend proposals to alleviate those concerns relating to the landfill from complainants, the consent holder and other parties;
- receive, discuss and consider as it sees fit any material provided to it by the consent holder, including material provided in accordance with condition 27D, and to provide such feedback to the consent holder as it deems appropriate and to
- consult with the consent holder on relevant matters in the LMP in accordance with Condition 27F.

Membership of CLC:

27B. The consent holder shall take all reasonable steps to ensure that the CLC has a range of representation, including, to the extent able:

- Local residents including
 - up to 2 members appointed by the Redvale Environmental Protection Society Inc; and
 - up to 4 resident members being one from each of Richards Road, Dairy Flat Highway, Horseshoe Bush Road and Tender Road locations
 - up to 2 from the Dairy Flat Community Trust Area.
- Two representatives of the consent holder
- A representative from Dairy Flat School, if available
- A representative from the Rodney Local Board, if available
- A representative from tangata whenua, if available



The CLC shall have an independent chairperson, appointed by the members of the CLC.

Council staff, and members of the PRP may also be invited by the CLC and the consent holder to attend CLC meetings.

Meetings:

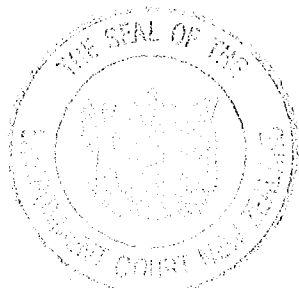
27C. The consent holder shall ensure that:

- The CLC has adequate secretarial support from the consent holder;
- A CLC meeting is called at least four times a year;
- Notice is given of upcoming meetings in local media such as the Dairy Flat Newsletter and on the WMNZ community webpage outlined in condition 27E;
- A draft agenda is circulated to all members of the CLC, Auckland Council and the PRP, and any member of the public who has indicated they wish to attend, at least 5 working days before the meeting;
- The agenda shall include a log of any complaints received in the period since the last agenda was issued;
- Minutes are taken and clear action points outlined with appropriate timeframes. The minutes shall be available within 10 working days of the relevant meeting;
- The Minutes are circulated to the CLC, a copy placed on the WMNZ community webpage, and a copy provided to Auckland Council and the Rodney Local Board;
- The consent holder, or any other CLC member where appropriate and able to attend, reports back at the following meeting on progress with agreed action points.

Materials to be supplied by the consent holder to the CLC:

27D. To support the role of the CLC the consent holder shall provide the CLC with:

- The six monthly PRP reports provided to the Auckland Council and referred to in condition 14.
- Details of any more than minor modifications to the design or methodology chosen for operation and construction of the landfill, where such modifications are the subject of a request for PRP or Auckland Council approval under condition 16.
- Proposed changes to the LMP, where such are to be submitted to the Auckland Council for approval or to be reviewed in accordance with conditions 19 or 22.
- Access to a hard copy will be available at the Landfill during office hours.



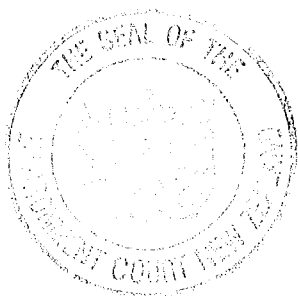
- Notification in circumstances where the Auckland Council has advised that it intends to waive the requirement for annual review of the LMP under condition 22.
- Details of any equivalent alternative daily cover for which Auckland Council approval is sought under condition 62.
- Copies of all reports provided to the Auckland Council relating to odour field inspections under condition 67.
- A copy of the recommendations of the independent odour consultant following their review, as provided to the Auckland Council under condition 68.
- Copies of the olfactometry and dispersion modelling reports provided to the Auckland Council under conditions 68A and 68B.
- An annual update on the airspace remaining at the landfill.
- The following records in accordance with Condition 25:
 - Degrees of settlement of refuse;
 - Water monitoring records;
 - Weather station data;

The consent holder shall advise the CLC of any resource consents being sought or submissions made by the consent holder in relation to the Redvale Landfill, prior to the application or submission being lodged with the Council. A copy of the application or submission shall be provided to the CLC no later than 5 working days following lodgment of the application or submission with the Council.

The provision of the above information to the CLC from the consent holder shall be made without delay.

Community webpage:

- 27E. Within three months of the commencement of this consent, the consent holder must establish, maintain and periodically update, at its own cost, a community webpage dedicated to communicating information relating to the landfill operation and other information (without limitation) including:
- Information about the CLC, including the role of the CLC and current membership (unless privacy is required by any member);
 - Date, time and venue for the next CLC meeting;
 - Minutes of CLC meetings (from the date of grant of this consent). Minutes shall be posted no later than 10 working days following the relevant meeting;



- Information about the complaints procedure operated by the consent holder and the Council, including business hours and out of hours contact details
- An online form for logging complaints which is to be available at all times on the website. The online form shall include the following fields for complainants to complete, if they wish: the address, time and date of complaint lodged, nature of complaint (eg odour, noise, etc); and shall provide a field for the recording of any additional information about a particular complaint. In the case of odour complaints, the online form shall allow the complainant to record the frequency, intensity (using the 0-6 scale set out in Condition 67c)), duration and a description of the offensiveness of the odour complained of. Once logged, a copy of the complaint shall be automatically forwarded to the consent holder, Auckland Council and the complainant, and within 24 hours of receiving the logged complaint, the consent holder shall advise Auckland Council of the outcome of any investigation(s) that it has undertaken.
- Access to weather station data.

The consent holder will consider including any other information that the CLC requests be available on the webpage, and will endeavour to include such information where appropriate to do so.

Advice Note: The online logging of complaints through the community webpage is an alternative to the telephone based complaints procedure required by Condition 27G. Both methods will be available to a complainant.

Advice Note: Nothing in these conditions regarding the consent holder's obligations around complaints relieves the Auckland Council from its monitoring, compliance and enforcement obligations.

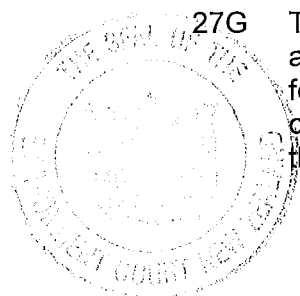
Consultation on the LMP

27F The consent holder shall consult with the CLC on any changes to the following sections of the LMP:

- Nuisance control measures;
- Community liaison;
- Complaints response procedure for odour effects beyond the notional odour boundary;
- Odour management; and
- Landscape amelioration, maintenance and restoration work.

Telephone complaints

27G The consent holder shall have a telephone based complaints procedure available for use by members of the public. A record of the complaint shall be forwarded to the Council, and within 24 hours of receiving the complaint, the consent holder shall advise the Council of the outcome of any investigation(s) that it has undertaken.



Non Hazardous Wastes

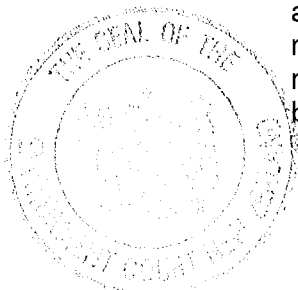
28. The landfill shall not accept any hazardous wastes as defined in USEPA Subtitle C [US Code of Federal Regulations Title 40 Volume 18 Parts 260 to 295 and in particular Part 261 - Identification and Listing of Hazardous Waste], with the modifications shown in the application Technical Report C 'Waste Acceptance' by Tonkin & Taylor Ltd December 2013 reference 29331.400 Appendix F: Proposed Waste Acceptance Criteria.
29. Material accepted into the landfill shall be limited to non-hazardous commercial wastes, non-hazardous industrial wastes, residential wastes, demolition debris, sludges from wastewater treatment plants with a solids content greater than 20% and site-generated sludges. Wastewater treatment plant sludges with a solids content less than 20% may be accepted if the chemical and physical stabilisation processes ensure that the sludges contain no free liquids as determined by the paint filter test.
30. Site-generated sludges from the operation of the leachate evaporator unit, cesspits and drains on the site may also be disposed of into the landfill in areas and by procedures and within weight limits described in the LMP approved by the Auckland Council.
31. Leachate may be disposed of into the landfill in areas and by procedures and volumes approved in advance by the PRP. The report from Tonkin & Taylor Ltd, ref. 23112, dated February 2008 shall be used as a guide to the methods required to limit the potential adverse effects of the recirculation of leachate.

Types of Waste

32. The consent holder shall conduct a survey of the types of waste received by the landfill in accordance with the Solid Waste Analysis Protocol (Ministry for the Environment, 2002) over a period of not less than five (5) working days, every three years. The results of this survey shall be forwarded to the Auckland Council within three months.
33. The consent holder shall inform the Auckland Council of details of the generator and transporter of any hazardous waste that has been refused entry to the landfill.

Bond

34. The consent holder shall maintain the bond existing as at 31 December 2013 (\$24,940,082 – this figure is derived from the provisions of Condition 31 of Environment Court decision W71/92), or an equivalent bond in terms satisfactory to the Council, to provide for early closure, environmental remediation, post-closure care and to ensure compliance with both performance and monitoring standards and the terms of any resource consents applying to the landfill operation. Any bond shall be in favour of the Council and shall include (in 1990 dollars) an increase of \$2.90 per tonne of refuse deposited in the landfill, up to a total of \$12,200,000. Both the bond fund and the increments shall be inflated annually according to the Works Construction Cost Index, or an appropriate replacement index. For the avoidance of doubt, the \$24,940,082 quantum reflects these calculations as at 31 December 2013. The bond shall be reviewed by the Council at five yearly intervals. A review of the purpose and quantum of



the bond, and of the appropriate index, shall be commenced by the Council within three months of the grant of this consent.

35. [This condition has been intentionally left blank].

Access Restriction

36. The number of vehicle movements generated per day by the landfill operation and the managed fill shall be limited to a maximum of 650 (325 in and 325 out). Such vehicle movements shall be counted at the weighbridge station and recorded in a register to be maintained by the operator and to be available to the Auckland Council upon request.

Planting and Restoration

37. Within six months of the grant of this consent, the consent holder shall submit to Council and have approved a Landscape Mitigation and Restoration Plan. This plan shall form part of the LMP and shall be a consolidation and elaboration of the following documents:

LA4 plan titled Redvale Landfill – Structure Planting (Revision 5C – 2011);

LA4 report 'Redvale Landfill: Proposed Southern and Western Footprint Alteration – Landscape and Visual effects Assessment', December 2003;

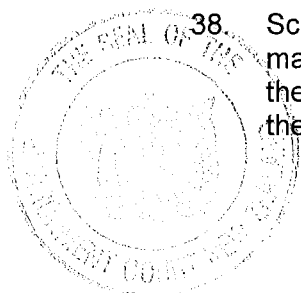
LA4 'Landscape and Visual Assessment' dated February 2009;

Boffa Miskell Ltd Figure LV8: Landscape Mitigation Plan, dated 21 May 2014

The Landscape Mitigation and Restoration Plan shall detail any additional areas of planting, or landscape treatment identified in **Conditions 38 – 46** and shall include the following information:

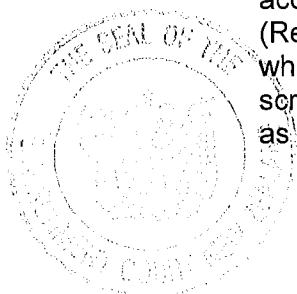
- Description of the objectives of the mitigation planting / landscape treatment, detailing the mitigation intent of each of the planting areas and how this will be fulfilled over time as the plants develop and age;
- Identification of areas of existing planting / vegetation to remain or be removed and the methodology for managing, and supplementing this planting / vegetation where necessary in a timely manner to maintain the mitigation objectives;
- Details of proposed species, grass mixes, plant grades, numbers and planting density,
- A proposed timetable for planting in relation to the completion of landfill final cap construction and completion of earthworks in the peripheral zones, and;
- Planting, maintenance and management methodology.

38. Screening of the landfill site and operations shall include screen planting and maintenance of existing screen planting around the full perimeter of the site to the satisfaction of the Auckland Council and shall be in general accordance with the approved Landscape Mitigation and Restoration Plan. A buffer zone of at



least 150 metres shall be left between refuse disposal operations and all houses existing as at the date of granting consent. A buffer zone of at least 130 metres shall be left between landfill operations and the Horseshoe Bush Road boundary of the site. Around the rest of the perimeter of the landfill a buffer zone of at least 30 metres shall be left. All buffer zones shall be developed and landscaped in accordance with the approved Landscape Mitigation and Restoration Plan required by **Condition 37**.

39. Landfill excavations shall be restored to minimise the visual impact from surrounding views. Grass cover, installation of terrace vee drains and piped downspouts on the exposed flanks of the landfill shall be carried out progressively as each cell and phase of the landfill is brought up to its final contour.
40. Exposed areas which are intended to remain unworked for a period of between two and six months shall be grassed forthwith if the Auckland Council reasonably requires that action to be taken, having regard to the size, location, composition and intended use of the area, climatic and topographical conditions, and the potential impact on the amenity of surrounding properties and residents of leaving the area ungrassed, and the area's visibility from beyond the boundaries of the consent holder's land.
41. In the event that the consent holder disagrees with the Auckland Council's decision, the matter shall be referred to the PRP whose decision as to whether grassing is needed or not will be final.
42. All exposed areas which are intended to remain unworked for six months or more shall be grassed, even if further filling is intended at a later date. The placement of topsoil and seeding shall be undertaken with a preference for the spring or summer months to ensure the seeding is successful and produces the best possible visual outcome. If grassing is not practicable, alternative stabilising or other covering options shall be undertaken.
43. Within two years after completing refuse filling in any landfill area where no further refuse filling is intended, the completed area shall be capped, top soiled and planted. The final post-settlement contour and restoration of the landfill and associated works shall be in accordance with the approved Landscape Mitigation and Restoration Plan required by **Condition 37**.
44. Landscaping and planting of the energy compound shall be undertaken and maintained in accordance with the approved Landscape Mitigation and Restoration Plan. This shall include the earth bund as well as the screen planting on this earth bund, or plans otherwise approved by Auckland Council.
45. The approved Landscape Mitigation and Restoration Plan shall provide for visual mitigation planting in accordance with Boffa Miskell Ltd Figure LV8; Landscape Mitigation Plan, dated 21 May 2014 to take place within 12 months of this consent commencing, to allow sufficient time for the planting to become established. This planting shall include an additional visual buffer of a minimum of two rows of pine trees within Area A, and infill planting within Area B in accordance with Note 2 on the plan titled 'Redvale Landfill – Structure Planting (Revision 5C – 2011) by LA4. Any older specimens surrounding either area, which are lost through age or disease, must be replaced to ensure a visual screen is maintained throughout the life of the landfill activity and until such time as the final landform is complete and planted.



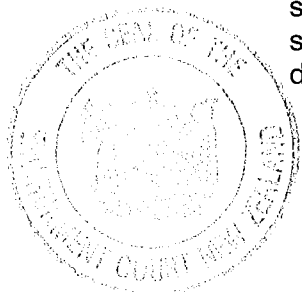
46. Vegetation shall be planted and maintained so that the generators are predominantly screened from adjoining properties to the south of the site which are not owned by the consent holder.

Hours of operation

47. The hours of operation for the landfill shall be 6.00am to 6.00pm Monday to Saturday. Operation of the landfill includes all tipping operations and site preparation works that involve the use of landfill machinery, including machinery used to remove temporary cover. These hours may be extended to no later than 9.00 pm for equipment maintenance works only.
48. Any noise emitted from activities authorised by this consent shall comply with the following noise limits at the notional boundary of any dwelling existing as at the date of granting consent (excluding any houses on land owned by the consent holder):

Time period	Time period Noise limit
0600 to 0700 hours Monday to Saturday	43 dB L _{Aeq}
0700 – 2000 hours Monday to Saturday	50 dB L _{Aeq}
At all other times	40 dB L _{Aeq}
At all other times	75 dB L _{Amax}

49. Noise levels shall be measured and assessed in accordance with New Zealand Standards NZS 6801:2008 "Acoustics - Measurement of Environmental Sound" and NZS 6802:2008 "Acoustics - Environmental Noise". Construction noise shall be measured and assessed in accordance with NZS 6803: 1999 "Acoustics - Construction Noise".
50. Prior to the commencement of operation of any new plant on site (e.g. generators, leachate evaporators, blowers and flares), the potential noise levels at the notional boundary of the nearest affected dwellings shall be calculated based on the simultaneous operation of the new and existing plant that would reasonably be expected to operate together. Any noise mitigation measures that may be required to maintain compliance at all times shall be identified and applied prior to the operation of the new plant. Once the new plant is operational, the noise emissions shall be measured to confirm compliance or otherwise with the relevant noise limits. If non-compliance with those noise limits is identified, the operation of the new plant shall be suspended until further noise mitigation measures are implemented. Once compliant noise emissions are confirmed the process shall be documented and submitted to the satisfaction of Auckland Council.
51. The consent holder shall update the Noise Management Plan (NMP), being a section of the LMP, to include the requirements below. The objective of the NMP shall be to outline the methods and measures by which the consent holder will demonstrate the adoption of the best practicable option (BPO), as defined in the



RMA, and ensure compliance with consent noise limits. Any material changes shall be to the satisfaction of Auckland Council.

- (a) The applicable noise limits for all operational noise;
- (b) Any restrictions on heavy machinery or plant (excluding generators, flares and ancillary equipment) that may be required to meet the night time noise controls in **Condition 48**;
- (c) Any noise mitigation measures required by the conditions of consent or to achieve the BPO;
- (d) The methodology for control of the low frequency combustion noise from gas flares;
- (e) Guidance on minimising noise effects on neighbours when using starter pistols and guns as bird and vermin control;
- (f) Any other noise mitigation measures available (and relevant timings) to reduce noise levels for the surrounding receivers as far as practicable, for example;
 - i. using the quietest machinery and methods practicable;
 - ii. Keeping all machinery maintained in good condition e.g. all tracked plant will be greased to reduce squeaking;
 - iii. Regular checks on machinery and plant to ensure that it is not generating unnecessary noise, and rectifying if necessary;
 - iv. When selecting any new machinery or plant, the degree of noise generation between models will be considered as an important factor;
 - v. Fitting exhaust silencers where practicable;
 - vi. When machinery or plant is not required to be running, it should be switched off and not left idling;
 - vii. Noisy plant and machinery shall be strategically positioned on the site to reduce the effects on neighbours where practicable;
 - viii. All plant and equipment owned or operated by the consent holder shall use broadband reversing alarms in place of traditional pure tone beepers and the consent holder should use its best endeavours to encourage contractors and customers etc to adopt the same alarms;
 - ix. The consent holder should use its best endeavours to ensure that its employees, contractors and customers exercise care when closing tail gates of waste disposal trucks, so that they are not slammed or allowed to fall closed causing unnecessary noise;
 - x. Horns should not be used unless in the case of an emergency;



- xi. When generators are to be decommissioned, generator noise will be an important factor in the selection of generators to be decommissioned first;
 - xii. All staff should be familiar with the NMP to ensure awareness of the impacts of noise and the above methods that can be used to minimise noise emissions.
- (g) The process for installing new generators with respect to noise control to ensure that noise limits are complied with at all times once operational. This shall include consideration of the recommendations contained in the document Supplementary Evidence of Evidence of Matthew Cottle on behalf of WMNZ dated 5 September 2014.
- (h) The appropriate contact person and phone numbers, including out of hours contact details, for any noise complaints.
- (i) The process for dealing with any noise complaints received, including keeping a register of complaints, any noise monitoring undertaken and the mitigation measures, if any, put in place. The register will be made available to Auckland Council on request.
- (j) Outline the process for carrying out annual noise monitoring, The Plan should set out but not be limited to the following:
- i. The relevant measurement and assessment locations;
 - ii. The relevant noise limits;
 - iii. The relevant operating conditions under which measurements are to be taken; and
 - iv. The process for reporting the results of the compliance assessment to Council.
52. The consent holder shall construct, with reference to the document Supplementary Statement of Evidence of Matthew Cottle on behalf of WMNZ dated 05 September 2014:
- i) Acoustic screening for the blowers, implemented within 3 months of grant of consent;
 - ii) Low-noise cooling fan blades; implemented within 3 months of grant of consent;
 - iii) A 4.5m barrier to mitigate the noise breaking out from the existing generator enclosures; and implemented within 3 months of grant of consent;
 - iv) A 6m high barrier to mitigate the noise breaking out from all new generator enclosures, or housing all new generators within their container enclosures inside a purpose-built building, as required and in accordance with the NMP.



The above timeframes may be adjusted with the written approval of Council's Team Leader Northern Monitoring, Orewa.

53. When requested by Auckland Council, the consent holder shall forward to the satisfaction of Auckland Council commissioning and / or monitoring reports demonstrating that the use complies with the noise conditions of these consents. In the event that there is non-compliance with **Condition 48**, the activity shall be modified (or ceased) forthwith, until such time as compliance can be demonstrated.

Vibration

54. The consent holder shall ensure that appropriate methodology is adopted to reduce, as far as practicable, low frequency noise emissions arising from the process of starting up any gas flare(s) on site. As part of the NMP for the landfill, the consent holder shall keep a detailed register for the gas flares including details of any complaints received; reaction to any reasonable complaints; any noise issues identified; and details of any noise reduction measures that have been investigated as part of an ongoing commitment to proactively minimise the low frequency noise emissions. The register shall be made available to Auckland Council for inspection upon their reasonable request.

Parking

55. The consent holder shall provide 45 onsite parking spaces to the requirements of the Auckland Council's "Standards for Engineering Design and Construction". The spaces may be progressively provided as each stage of the development is completed.

Access

56. The landfill shall not be open to the public.
57. All access is to be confined to the rights of way from Dairy Flat Highway. No access (other than for emergency vehicles) may be obtained from Horseshoe Bush Road or Richards Road.

Fencing

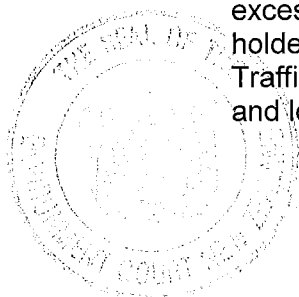
58. The site boundaries shall be fenced with a dog proof security fence everywhere within 50 m of places accessible by the public.

Gates

59. Entrance gates across the access to the landfill shall be provided and locked outside the specified hours of operation.

Construction Traffic Management

60. Prior to the commencement of any building work and / or any earth work in excess of 0.25 ha that is not within the landfill final design footprint, the consent holder shall submit to the Auckland Council and have approved a Construction Traffic Management Plan. In particular this plan shall explicitly address parking and loading issues for the construction related traffic.



Refuse Placement

61. Refuse placement shall include the following measures:
- (a) The working surface of each daily refuse cell shall be kept to a minimum and shall not exceed a width of 50 metres and a depth of 4.5 metres.
 - (b) Daily cover shall be removed by cutting windows through the previous layer of daily cover before refuse placement at the start of each day.
 - (c) Temporary stormwater diversion berms shall be formed to prevent stormwater running into the current working area.
62. Exposed refuse shall be covered with clean fill regularly and promptly to a minimum depth of 150mm and no refuse shall remain exposed overnight. Final cover shall be placed as soon as practical after refuse placement to its final height. An equivalent alternative daily cover may be used with the prior approval of the Auckland Council and the PRP.

Vermin, Insects and Bird Control

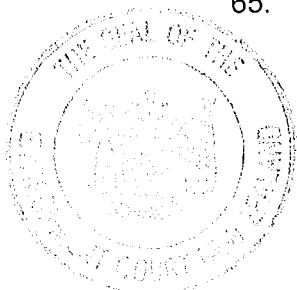
63. A pest control plan shall be implemented from the time of the use commencing to prevent pest populations from being established at the site, and form part of the LMP as set out in **Conditions 19 and 20**. Pest control shall be to the satisfaction of Auckland Council.

Litter

64. Effective procedures shall be implemented to control litter in accordance with the LMP. In particular the following measures shall be taken:
- (a) Best practicable options shall be used in the vicinity of the tipping face in order to control windblown litter;
 - (b) Regular patrols (approximately weekly) of the site and all public roads (including Dairy Flat Highway) within a 1 kilometre radius of the site boundaries shall be carried out by the landfill operator to collect litter.
 - (c) Any litter which escapes from the site shall be collected once each week or more frequently if found necessary.
 - (d) Where it appears that litter has found its way on to privately owned land within 500 metres of the perimeter of the site, the consent holder will upon request by the owner or occupier of the land, remove it if it appears likely to have come from the landfill operations. Any dispute as to the likely source of any litter on such privately owned land shall be resolved by the Auckland Council whose decision will be final.

Dust

65. Effective dust control procedures shall be implemented at the site to ensure that beyond the boundary of the site there shall be no dust caused by discharges from the site which, in the opinion of an enforcement officer, is noxious, offensive or objectionable. In particular the following measures shall be taken:



- (a) Watering of all internal access and manoeuvring areas during dry periods.
- (b) All access and manoeuvring areas shall be maintained to the satisfaction of the Auckland Council in order to reduce the creation of dust and to prevent the deposition of significant dirt or other material onto the public road or Dairy Flat Highway.
- (c) A water truck shall be permanently maintained on the site to control dust at the tip face, to dampen down unsealed access roads, and for fire control.

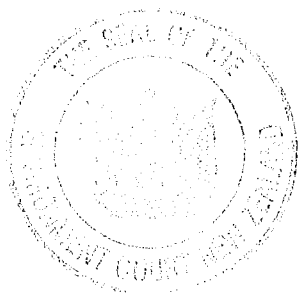
Odour

66. Odour shall be controlled in accordance with Air Discharge Permit 37802 and any subsequent air discharge permits.

Advice Note: This condition in no way influences the potential granting or refusal of any future air discharge applications. The process for assessing odour complaints by Auckland Council or the consent holder shall consider any assessment of the FIDOL factors.

- 66A. The consent holder shall engage a full time equivalent odour technician on site. The odour technician's role description shall include:

- Employing best practice odour management techniques
- Managing odour sources from the site in accordance with the conditions of this consent and the LMP (including the Odour Management Plan section of the LMP);
- Monitoring odour management devices onsite and ensuring that they are appropriately maintained and operated;
- Ensuring that all odour complaints are responded to within half an hour where complaints are made during landfill operating hours, and as soon as reasonably possible where complaints are made outside such hours;
- Assisting the Landfill Manager to ensure that the odour complaint response procedures outlined in the LMP are adhered to;
- Undertaking a daily odour patrol, with the patrol locations based on:
 - meteorological conditions
 - location of the tip face or working area
 - the complaints record and any consultation with the CLC
- Ensuring the odour field inspections required by **Condition 67 a) and b)** are carried out; and
- Making recommendations to the Landfill Manager, when necessary, to proactively address any actual or potential odour effects or complaints about odour effects.



- 66B. The monitoring of surface methane emissions required in Condition 18 of the Air Discharge Permit 37802, shall be carried out on a monthly basis on surface areas of the Landfill with intermediate cover.
67. Regular odour field inspections shall be undertaken either at or as close as practical to the notional odour boundary around the landfill site. The field inspections shall:
- a) be carried out weekly by a representative of the consent holder for a continuous period of 12 months commencing no later than the date of commencement of this consent, and thereafter at a frequency approved by Auckland Council but no less often than quarterly;
 - b) be carried out monthly by a suitably qualified external person approved by the Auckland Council for a continuous period of 12 months commencing no later than the date of commencement of this consent, and thereafter at a frequency approved by Auckland Council but no less often than 6 monthly;
 - c) be conducted in accordance with the methodology approved by Auckland Council and set out in the LMP. The methodology shall include recording of odour intensity using the following 0-6 intensity scale.

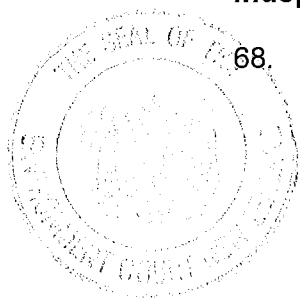
0	No odour detected
1	Very weak
2	Weak
3	Distinct
4	Strong
5	Very strong
6	Extremely strong

Advice Note: the 0-6 intensity scale is based in on the German Standard VDI 3960 Part 3 (2010).

The consent holder shall investigate the cause of any odour detected by these odour field inspections in accordance with the conditions of this consent and the LMP and shall remedy any faults located. A record of each field inspection shall be maintained including weather conditions, the location of any odours identified, the intensity, duration and hedonic tone of the odour and the findings of any investigation. These records shall be provided to Auckland Council on a quarterly basis for the first 12 months and at least annually thereafter. The records shall also be made available to either one of the CLC, PRP or an Enforcement Officer if requested.

Independent Review of Odour Complaints and Odour Management

68. The consent holder shall engage an independent consultant experienced in landfill gas (LFG) collection and extraction and odour management (including olfactometry and dispersion modelling) and who has not had previous involvement in the landfill at the commencement of this consent to annually:



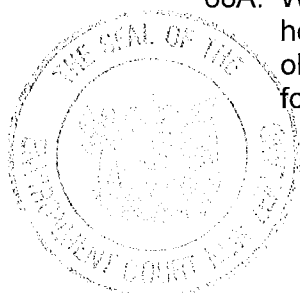
- Review all odour complaints received over the past two years and before if it is relevant to do so.
- Review the results of the odour field inspections and the on-site odour patrols carried out in accordance with **Conditions 66A** and **67**.
- To review the olfactometry measurements and the dispersion modelling study prepared in accordance with **Conditions 68A** and **68B**, in the year in which such measurements and studies are completed.
- Review the response to odour complaints.
- Review the landfill odour management practices including waste acceptance and placement, extent and management of the open tipping face, placement of intermediate cover (including extent, physical nature and thickness), the extent and operation of the LFG collection and extraction system including its effectiveness at minimizing LFG discharge through the intermediate cover and the open face.
- Recommend any changes to landfill odour management practices, including placement and maintenance of intermediate cover and collection and extraction of LFG to ensure or better enable compliance with :
 - Air Discharge Consent 37802, Condition 9, which requires that for areas outside the site's notional boundary for odour, as shown on Attachment 2 of that consent, there shall be no odour caused by discharges from the site which, in the opinion of an enforcement officer, is noxious, dangerous, offensive or objectionable; and
 - Air Discharge Consent 37802, Condition 34, which requires that the uncovered areas of the working face be kept to a practical minimum and all necessary steps shall be taken to minimise odour from the working face.

The consent holder shall consider all reasonable request for additional testing or odour patrols considered necessary by the independent reviewer to undertake the review.

The consent holder shall provide the Auckland Council with a copy of any recommendations arising from the independent odour consultant's review. If necessary, the council may initiate a review of the conditions of this consent (as relevant to the matters addresses by this condition, **Condition 68**) under section 128 of the Act, by the giving of notice pursuant to section 129.

Olfactometry testing

68A. Within 12 months of the date of commencement of this consent, the consent holder shall submit a report to Auckland Council presenting the findings of olfactometry measurements taken at the site. The olfactometry shall include the following:



- (a) Odour samples shall be collected from:
- (i) the active working face;
 - (ii) representative areas with daily cover;
 - (iii) representative areas with intermediate cover; and
 - (iv) representative areas with final cap.
- (b) Sufficient odour samples shall be collected in light or calm conditions to characterise odour emissions over the course of a typical day, and will comprise at least three samples from each representative source type;
- (c) The odour samples shall be analysed using dynamic dilution olfactometry by an accredited laboratory in accordance with AS/NZ 4323.3:2001, or other equivalent method to the satisfaction of the Manager.

Dispersion modelling

68B. Within 12 months of the date of commencement of this consent, the consent holder shall submit a report to Auckland Council presenting the findings of a dispersion modelling study to characterise the relative potential for odour effects from the landfill at locations beyond the notional odour boundary. The dispersion modelling study shall:

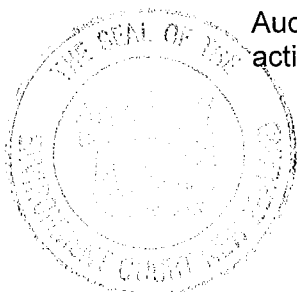
- (a) Be undertaken using the CALPUFF suite of models.
- (b) Include meteorological data collected from the on-site weather station.
- (c) Consider two scenarios as follows:
 - (i) the landfill landform and location of working areas existing at the time of the modelling; and
 - (ii) a future 'worst case' scenario taking into account the height and proximity of the working area relative to sensitive receptors.

Wheel Wash

69. Wheel washing facilities that are designed to prevent, as far as practicable the deposition of material on Dairy Flat Highway by trucks leaving the landfill shall be maintained in the vicinity of the tip area to the satisfaction of the Auckland Council.
70. Details of the site's erosion and sediment controls shall be documented and updated as required in the ESCP required by **Condition 153**. Any amendments to the approved ESCP shall be submitted to and approved by the Council's Team Leader – Earthworks and Contaminated Land, NRSI, in writing prior to implementation. Design and treatment standards (where applicable) for the additional controls proposed for minimising contamination of the access road from sediment (such as, but not necessarily limited to truck "pre-wash", rumble bars, and grit interceptor in Catchment G, and any subsequent measures) are to be provided for approval prior to implementation.

Warning Signs

71. The consent holder shall provide appropriate warning signs approved by the Auckland Council on Landfill Access Road to focus user's attention to pedestrian activities.



Civil Aviation

72. The consent holder shall submit to the Auckland Council upon request confirmation from the Civil Aviation Authority that the landfill operations are not causing such increase in bird populations within and in the vicinity of the landfill that undue threat is being posed to flight operations to and from the Dairy Flat Airfield.

On Going Leachate and Gas Collection and Disposal

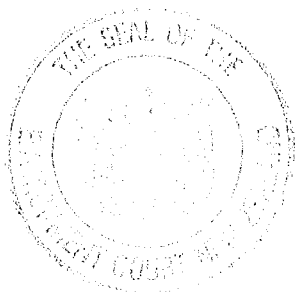
73. The consent holder shall have a continuing responsibility for leachate and gas collection and disposal beyond the life of the landfill as a disposal facility, as described in **Condition 76**.
74. The consent holder shall produce a report at the end of the post-closure aftercare period which shall demonstrate that the landfill no longer presents any undue or unacceptable risk to the environment to the satisfaction of the appropriate regulatory authority.
75. The consent holder shall adopt a minimum post-closure aftercare period of 30 years, and shall if required continue full operational monitoring and maintenance during this period.
76. At least 12 months prior to the closure of the landfill the consent holder shall provide a Post Closure Management Plan for approval by Auckland Council. The consent holder shall adhere to and maintain the Post Closure Management Plan for the duration of the post-closure aftercare period. The Post Closure Management Plan shall be updated as necessary and any updates shall be approved by Auckland Council.

Construction

77. The consent holder shall construct the side walls (high walls) that form part of the base grade in a manner that will minimise the possibility of stability problems. The consent holder shall comply with all requirements for side wall preparation (including liner placement) agreed jointly by members of the Liner Review Team established in accordance with **Condition 84**. All areas of the side wall shall be inspected by the Liner Review Team and preparation requirements shall be reported to both the consent holder and the Auckland Council. In accordance with **Condition 85**.

Special Conditions

78. The consent holder shall ensure the Redvale Landfill operations authorised by these consents are under the responsibility of a Professional Engineer experienced in landfill operations, approved by Auckland Council.
79. The consent holder shall ensure that standby plant is always maintained in an operative state and tested every six months.



Specific consent conditions for permit number REG-61341 (NRSI 42369) – discharge of contaminants to land or water from an open landfill.

80. The consent holder shall ensure that the discharge of leachate from the landfill to ground soakage will not exceed a daily discharge limit of 0.3 cubic meters per day.

Leachate Monitoring and Contingency Plan

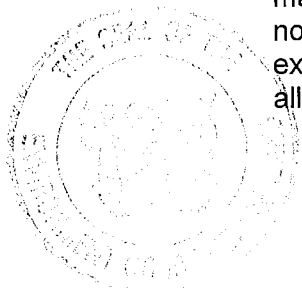
- 81.. The consent holder shall complete prior to works under this consent commencing a Leachate Monitoring and Contingency Plan (LMCP) for the approval of the Team Leader - Northern Monitoring, Auckland Council. The LMCP may form part of the LMP. The LMCP shall describe in greater detail proposals for water chemistry monitoring, detection limits, methods of analysis and units of measurement for all parameters listed in **Condition 87, 90 and 91** and shall (a) contain guidelines for the determination of whether leachate contamination is occurring and (b) provide contingency plans for remedial actions should leachate or other pollutants associated with the landfill and activities on the site associated with this consent occur.

The LMCP shall (without limitation):

- (a) describe procedures for water chemistry, ground water level and leachate level monitoring;
 - (b) specify the methods of analysis for samples taken in accordance with these special conditions;
 - (c) specify the units of measurement for reporting of analysis of water samples;
 - (d) specify the detection limits for analysis of water samples;
 - (e) summarise the results of baseline monitoring;
 - (f) summarise how the results of the leachate levels in the landfill will be compared to ground water levels outside the landfill;
 - (g) provide a definition of leachate contamination;
 - (h) contain guidelines for procedures to determine whether leachate contamination is occurring;
 - (i) state the sources of the criteria and water quality standards used as a basis for the definition of leachate contamination;
 - (j) define the circumstances and times when notification to the Auckland Council is required;
 - (k) provide contingency plans for mitigation and remedial actions should leachate contamination occur;
 - (l) describe polluted groundwater control for the purposes of **Condition 94**.
82. The Auckland Council may review the LMCP at not more often than five yearly intervals, upon giving three months' notice and require such reasonable modifications as necessary to prevent a repetition of an event reportable under **Condition 95**.

Liners

83. That the consent holder shall construct a liner of re-compacted low permeability material, such as mudstone, clay or similar which has a hydraulic conductivity of not greater than 1×10^{-9} m/s and with a minimum thickness of 900 mm, excluding areas already approved prior to the commencement of this consent. In all areas the subgrade materials will, on excavation to sub grade, be inspected in



accordance with **Condition 84**. The type of material used for the re-compacted liner shall be approved by the PRP and the Team Leader - Northern Monitoring, Auckland Council. The hydraulic conductivity of the upper 900 mm of the base grade area shall be not greater than 1×10^{-9} m/s.

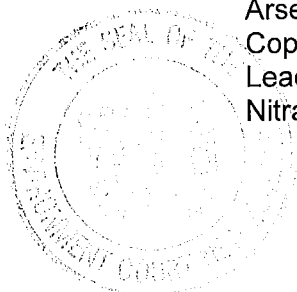
84. The consent holder shall comply with all requirements for base grade preparation, (including, liner placement) agreed jointly by a Liner Review Team (consisting of the consent holder's engineering advisers and a designated member of the PRP experienced in such work), on the basis of an independent sub grade inspection carried out by the Liner Review Team. All areas of sub grade shall be inspected by the Liner Review Team, and base grade preparation requirements shall be reported in conjunction with the independent quality assurance report required under **Condition 85**.
85. All base grade preparation work including the lining system shall be independently observed, and an independent quality assurance report on base grade preparation, including the results of any testing, shall be submitted to the Team Leader - Northern Monitoring, Auckland Council, prior to the base grade area being covered by refuse or other permanent cover materials.
86. Requirements for independent observation and testing of re-compacted liner zones (including both test methods and testing frequency sufficient to provide acceptance / rejection criteria to the satisfaction of the PRP and the Team Leader - Northern Monitoring, Auckland Council), shall be agreed by the consent holder, the PRP and the Team Leader - Northern Monitoring, Auckland Council, prior to work commencing under this consent.

Baseline sampling

87. That baseline sampling and analysis of groundwater and groundwater levels from each of the monitoring bores listed in **Schedule One**, or other locations at the reasonable approval of the Auckland Council, shall be undertaken three monthly (quarterly) for a period of one year prior to landfilling operations commencing on that part of the site on which that particular monitoring bore is to be located. The final sampling frequency is subject to the ability of bores to be sampled due to low groundwater flows but in no case shall sampling be attempted less frequent than quarterly.

The analysis shall be for the following parameters:

PARAMETER	UNITS
Temperature	°C
Sodium	g Na/m ³
pH	
Chloride	g Cl/m ³
Conductivity	mS/m
Potassium	g K/m ³
Total Ammoniacal Nitrogen	g N/m ³
Total Hardness	g CaCO ₃ /m ³
Zinc (soluble)	g Zn/m ³
Manganese (soluble)	g Mn/m ³
COD	g O/m ³
Arsenic (soluble)	g As/m ³
Copper (soluble)	g Cu/m ³
Lead (soluble)	g Pb/m ³
Nitrate Nitrogen	g N/m ³



Sulphate	g SO ₄ /m ³
Alkalinity	g CaCO ₃ /m ³
Boron	g B/m ³
Nickel (soluble)	g Ni/m ³
Calcium	g Ca/m ³
Iron (soluble)	g Fe/m ³
Magnesium (soluble)	g Mg/m ³

Operational monitoring

88. Operational sampling and analysis of groundwater and groundwater levels shall be undertaken after the commencement of landfill operations on that part of the site where that particular monitoring bore is to be located.
89. Water levels in the bores listed in **Schedule One** (of this consent) and water quality shall be measured and recorded at quarterly intervals from the date of commencement of this consent. Records of each date and corresponding water level for the bores in **Schedule One** shall be collected in accordance with the LMCP. The standing water level shall be measured from the top of the casing, and shall be recorded to the nearest 0.01 of a metre (i.e. the nearest centimetre). The bore should not have been pumped for at least 24 hours prior to the water level measurement being taken.
90. Sampling and analysis of groundwater and ground water levels from operational bores listed in **Schedule One** shall be performed quarterly.

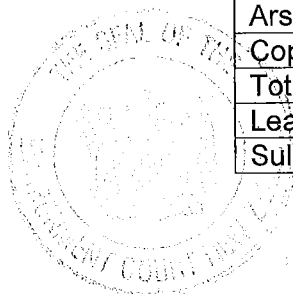
The analysis shall be for the following parameters:

PARAMETER	UNITS
Temperature	°C
pH	
Conductivity	mS/m
Total Ammoniacal Nitrogen	g N/m ³
Nitrate Nitrogen	g N/m ³
Boron	g B/m ³
Chloride	g Cl/m ³
Turbidity	NTU

91. Sampling and analysis of groundwater and ground water levels from operational bores listed in **Schedule One** shall be performed annually.

The analysis shall be for the following parameters:

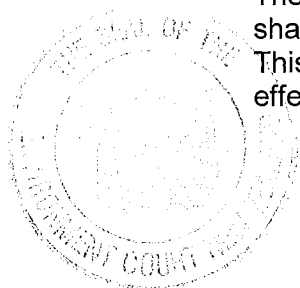
PARAMETER	UNITS
Sodium	g Na/m ³
Potassium	g K/m ³
Chromium (soluble)	g Cr/m ³
Total hardness	g CaCO ₃ /m ³
Zinc (soluble)	g Zn/m ³
Manganese (soluble)	g Mn/m ³
COD	g O/m ³
Arsenic (soluble)	g As/m ³
Copper (soluble)	g Cu/m ³
Total Phenols	g/m ³
Lead (soluble)	g Pb/m ³
Sulphate	g SO ₄ /m ³



Alkalinity	g CaCO ₃ /m ³
Nickel (soluble)	g Ni/m ³
Cadmium (soluble)	g Cd/m ³
Calcium	g Ca/m ³
Magnesium (soluble)	Mg/m ³

An ion balance (anion/cation) of 90%-110% shall be achieved

92. The consent holder shall ensure that all chemical analysis and sampling, techniques are carried out in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater", APHA AWWA WEF or the latest similar USEPA method or other standards approved in writing by the Auckland Council.
93. Detection limits, methods of analysis and units of measurement for all parameters shall be set out in the LMCP.
94. Should any leachate contamination or other pollutants (as defined in the LMCP) be detected in the analysis of groundwater as required by **Conditions 91 and 92**, then the requirements of **Condition 95** shall be implemented.
95. Where any leachate contamination or other pollutants associated with the consent holder's operations escapes to natural water, the consent holder shall:
- Undertake appropriate remedial action immediately as prescribed in the LMCP.
 - Immediately notify the Team Leader - Northern Monitoring, Auckland Council of the escape of leachate or other pollutants.
 - Provide the Team Leader - Northern Monitoring, Auckland Council, immediately on receipt of monitoring results, a written account of the waste character, manner or cause of such escape, remedial actions undertaken and strategy for prevention of future similar occurrences.
96. If required in writing by the Auckland Council the consent holder shall measure the total daily quantity of leachate being extracted and disposed of from the landfill.
97. If required in writing by the Auckland Council, the consent holder shall submit to the Team Leader - Northern Monitoring, Auckland Council, no later than the 30th of April each year, the total daily quantity of leachate being extracted and disposed of from the landfill for the preceding 12 months ending the last day of March that year.
98. The consent holder shall measure at monthly intervals from the date of commencement of this consent the level of leachate in the landfill at Phase 1 through the dedicated leachate borehole listed in **Schedule One**. The results of the measurement shall be compared to the closest ground water level bores. The standing leachate level shall be measured from the top of the casing, and shall be recorded to the nearest 0.01 of a metre (i.e. the nearest centimetre). This comparison shall be to confirm that the inward hydraulic gradient remains in effect. This comparison shall be reported to the Team Leader - Northern



Monitoring, Auckland Council in the quarterly water monitoring results as per **Condition 99 Reporting**.

Reporting

99. The consent holder shall forward the results of all groundwater quality analysis, leachate levels and water levels on a quarterly basis to the Team Leader - Northern Monitoring, Auckland Council.

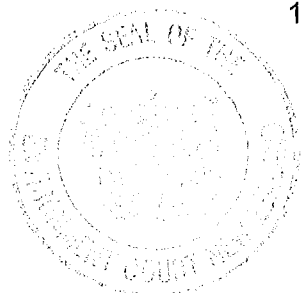
Refuse Disposal

100. The consent holder shall maintain a manifest/declaration system that shall record the following information for wastes received for disposal. This information is to be forwarded to the Auckland Council on a monthly basis no later than the 10th working day of the following month.
- (a) general description and quantity (metric tonnes) of domestic, commercial, and industrial waste received.
 - (b) general description and quantity (metric tonnes) of all special waste received at the landfill for disposal.

Specific consent conditions for permit number REG-61343 (NRSI 42572) – take and diversion of groundwater.

Groundwater Monitoring

101. The existing monitoring bores on the subject site, shown on the annotated plan entitled Redvale Landfill Monitoring Bore Locations drawn 7/11/13 and revised 17/7/14 attached to these conditions as **Drawing One**, and listed in **Schedule One**, are to be maintained to ensure ongoing monitoring data is obtainable. Should any of the monitoring bores be damaged or become in-operable, then the Council's Manager, Consents and Compliance, Water Allocation NRSI is to be informed and a new monitoring bore, to the same depth or greater, is to be drilled at a nearby location in consultation with the Council's Manager, Consents and Compliance, Water Allocation NRSI.
102. Piezometers identified as WSL1S&D, WSL9S&D and WL10S&D are to be constructed with an intake zone approximately 3.0 metres below the adjacent floor level of the excavation and with an intake zone at a position equivalent to the mid-depth of the adjacent excavation.
103. In the event that groundwater levels drop below the base of any of the deep piezometers installed on the site, new piezometers shall be installed at a deeper level in consultation with the Council's Manager, Consents and Compliance, Water Allocation NRSI.
104. The Council's Manager, Consents and Compliance, Water Allocation NRSI shall be provided with as-built details of any new or replacement monitoring bores required under **Condition 103** (location map, geological log, piezometer construction details, screen depths, RL at top of bore casing to an accuracy of 10mm), within one month of bore construction.



105. An updated **Schedule One** and revised plan is to be provided within one month of a new monitoring bore being drilled, and updated in relevant management plans.
106. Each proposed piezometer listed in **Schedule One** (WL1S&D, WL9S&D and WL10S&D) shall be installed at least 12 months prior to refuse placement commencing on that part of the site adjacent to where that particular piezometer is to be located or otherwise at the reasonable direction of Auckland Council.
107. The consent holder shall measure groundwater levels quarterly each year, ending 31 March, in all bores listed in **Schedule One** and shown on **Drawing One**, and shall submit a return of all water levels since installation from each piezometer, no later than 30 April each year.

Leachate Levels

108. The measured leachate level in proposed leachate monitoring well LM1 shall not exceed a level of RL48.0m and in addition the leachate level in LM1 shall be maintained, at all times, at least 0.5m below the groundwater level measured in adjacent monitoring bore WL3S and or any replacement bore agreed in writing by the Team Leader - Northern Monitoring, Auckland Council.

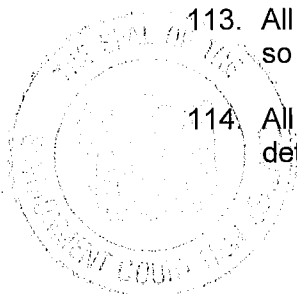
Monitoring Frequency

109. Leachate levels in bore LM1, or any replacement bore agreed in writing by the Team Leader - Northern Monitoring, Auckland Council shall be measured in accordance with **Condition 98**. Groundwater levels in bores WL3D1 and WL3S1, or any replacement bore agreed in writing by the Manager, shall be measured in accordance with **Condition 107** at a minimum of monthly intervals. The records of measurement in reduced level (RL) and the date of measurements shall be provided to the Team Leader - Northern Monitoring, Auckland Council at quarterly intervals.

Specific consent conditions for permit number REG-61342 (NRSI 42570) – diversion and discharge stormwater

Maintenance Report

110. Details of all inspections and maintenance for the stormwater management system for the preceding three years shall be retained by the consent holder.
111. The maximum rate of discharge from stormwater detention ponds 1, 2, 3, and 4 shall be less than predevelopment flows for the critical 2, 10, and 100 year Average Recurrence Interval storms.
112. All permanent surface water diversion channels shall be constructed to convey the critical 50 year Average Recurrence Interval storm flow with minimum drainage channel freeboard values to be set at 300 mm for cover berm drains, and 300 mm for surface drainage channels, measured from the crest of the channel.
113. All permanent diversion channels shall be designed constructed and maintained so as to minimise erosion of the channel in all circumstances.
114. All structures authorised by this consent including earth fill dams, stormwater detention ponds, spillways, pipes and permanent erosion protection shall be



maintained by the consent holder to ensure that they perform at all times to the standards specified in this consent.

115. Stormwater discharged to tributaries of the Rangitopuni Stream shall contain no more than 50 g/m³ of suspended solids in 95% of samples in any consecutive twelve month period taken in accordance with the monitoring programme.

Stormwater Monitoring and Contingency Plan

116. The consent holder, prior to works authorised by this consent commencing shall complete a Stormwater Monitoring and Contingency Plan (SMCP) for the approval of the Auckland Council. The Plan may form part of the LMP (**Conditions 19 and 20**) and shall be reviewed **annually**.

117. The SMCP, which applies to surface water discharges from the site, shall (without limitation):

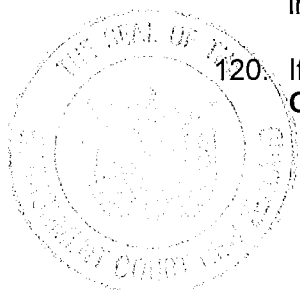
- describe procedures for water sampling and water chemistry monitoring;
- specify the methods of analyses of water samples;
- specify the units of measurement for the reporting of analyses of water samples;
- specify the detection limits for analyses of water samples;
- describe the sampling locations;
- summarise the results of baseline monitoring;
- provide a definition of leachate contamination;
- provide a definition of contaminant discharge to water;
- provide response limits for the results of analyses and guidelines for the determination of whether leachate contamination is occurring, for the purposes of special **Conditions 118 and 120**;
- state the sources of criteria and water quality standards used as a basis for the definition of leachate contamination;
- provide contingency plans for remedial actions should either leachate contamination or leachate breakout occur;
- detail contingency measures to be undertaken in the event of the stormwater detention ponds becoming contaminated with leachate such that no contaminants are discharged beyond the specified response limits.

118. The consent holder shall continuously ("continuously" shall mean at intervals of not more than 30 minutes) monitor the flow into the stormwater detention ponds for electrical conductivity (mS/m³), and from the discharge for the following:

- | | |
|----------------------------|-------|
| • Flow rate; | L/min |
| • Electrical conductivity; | mS/m |
| • Temperature | °C |

119. The consent holder shall calibrate the meters required for continuous monitoring in accordance with the manufacturer's specifications.

120. If continuous monitoring results obtained at the pond outlet in accordance with **Condition 118** shows electrical conductivity exceeded the approved trigger



levels, a grab sample of the diverted stormwater shall be taken at the point of discharge (outlet) and analysed for the following parameters.

- Temperature °C
- pH;
- Total Ammoniacal Nitrogen; gN/m³
- COD; and gO/m³
- Chloride gCl/m³

121. If the results of samples obtained in accordance with **Condition 120** show leachate contamination (as described in the Stormwater Monitoring and Contingency Plan required by **Condition 116**), then discharging from the stormwater detention ponds outlet shall cease until electrical conductivity at the point of discharge no longer indicates that contamination is occurring.

122. Within 5 working days of receipt of sample results showing contaminants exceeding the agreed trigger levels described in the LMP, the results shall be forwarded to the Team Leader - Northern Monitoring, Auckland Council.

(a) An investigation shall be undertaken to determine why exceedances were detected and to identify if any additional source controls or treatment required, and if so what.

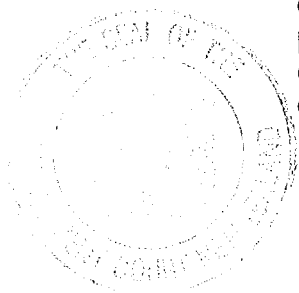
(b) Any additional structural or procedural controls proposed by the consent holder shall be approved by the Team Leader - Northern Monitoring, Auckland Council, in writing prior to their implementation.

123. That the consent holder shall maintain three receiving water monitoring stations in the Rangitopuni Stream: Site 1 (upstream from the landfill), Site 2 (at the Horseshoe Bush Road bridge); Site 3 (downstream from the landfill).

124. The Stormwater Monitoring Programme specified in **Conditions 146 and 147** (industrial and trade activity consent) shall also include monitoring parameters for analysis from the four stormwater outlets in addition to the stream (Site 1, Site 2 and Site 3) on a quarterly basis (on going) and shall include:

- Total Hardness g CaCO₃/m³
- Total suspended particulate mg/L
- Alkalinity g CaCO₃/m³
- Turbidity NTU
- Temperature °C
- Electrical Conductivity mS/m
- Total Ammoniacal Nitrogen; gN/m³
- Aluminium (soluble) g Al/m³
- Iron (total) g Fe/m³

125. In addition to the parameters above, stormwater monitoring analysis of volatile acid compounds (VA) and phenols shall be undertaken six monthly over a period of one year from the commencement of the consent from the four final discharge points, to confirm that the mitigation measures on site are working. If the results of the monitoring show contaminants exceeding the agreed trigger levels described in the SMCP required by **Condition 116** and show that VAs and



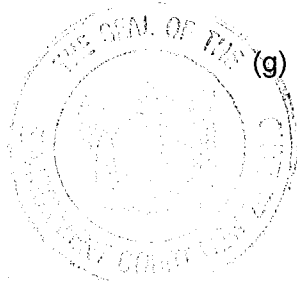
phenols are detected, discharging from the respective stormwater treatment pond outlet into the Rangitopuni Stream shall cease, and an investigation shall be undertaken to determine why exceedances were detected and to identify any additional source controls or treatment required.

126. Discharging into the Rangitopuni Stream shall be undertaken once the consent holder shows that the stormwater is no longer contaminated and parameters analysed by **Conditions 124 and 125** are within the approved trigger limits described in the SMCP required by **Condition 116**.
127. Within 5 working days of receipt of sample results taken in accordance with **Conditions 124 and 125** showing contaminants exceeding the agreed trigger levels described in the SMCP the results shall be forwarded to the Team Leader - Northern Monitoring, Auckland Council and any additional structural or procedural controls proposed by the consent holder shall be approved by the Team Leader - Northern Monitoring, Auckland Council, in writing prior to their implementation.

Specific consent conditions for permit number REG-61544 (NRSI 42574) – industrial and trade activity

Environmental Management Plan

128. The site shall be operated and managed in accordance with an approved Environmental Management Plan (EMP) to ensure the risks from the site are managed appropriately. The EMP may form part of the LMP established in accordance with **Conditions 19 and 20**.
129. The EMP shall include, but not be limited to:
- (a) identification of the specific activities conducted on the site;
 - (b) identification of potential contaminants associated with these activities;
 - (c) methods used to prevent identified contaminants contacting stormwater runoff as far as practicable and methods to manage environmental risks from site activities;
 - (d) an Emergency Spill Response Plan (which includes the provision that all spills over 20 litres, or any spill of Environmentally Hazardous Substances that has entered the stormwater system, a water-body or has contacted unsealed ground, shall be reported immediately to the Auckland Council's 24 Hour Pollution Hotline (09-377-3107));
 - (e) Stormwater Monitoring and Contingency Plan (as described in **Conditions 116 and 117**);
 - (f) an up-to-date and accurate site drainage plan showing the location of all site catchpits and the final discharge point(s) of the site stormwater system;
 - (g) an appropriate auditing programme to ensure site performance with all components of the EMP;



- (h) methods for providing and recording staff training;
 - (i) an Operation and Maintenance Plan as outlined in **Condition 141**; and
 - (j) a Stormwater Monitoring Programme as outlined in **Condition 147**.
130. Within 60 days of commencement of this Industrial Trade Activity consent a final updated EMP shall be submitted to the Team Leader - Northern Monitoring, Auckland Council for approval.
131. The EMP shall be kept on site and accessible at all times.
132. The EMP shall be reviewed and updated annually from the date of commencement of this consent, to ensure all components of the EMP are still relevant.

Advice Note: A summary of all revisions and the revised sections shall be submitted as part of the Annual Report required by **Condition 149**.

Stormwater Work

133. The following structural controls are to be constructed for the following catchment areas and design standards and are to be completed within 6 months from the commencement of this consent.

Works	Device catchment area/Minimum capacity	Design standard
Grit interceptor	Catchment G on Landfill Access Road - minimum 2m ³	TP10 Stormwater management devices: Design guidelines manual 2003

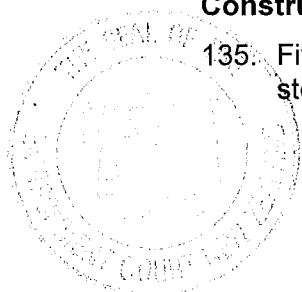
134. In the event that any minor modifications to the stormwater management system are required, the following information shall be provided:
- Plans and drawings outlining the details of the modifications; and
 - Supporting information that details how the proposal does not affect the capacity or performance of stormwater management system.

All information shall be submitted to, and verified by the Team Leader - Northern Monitoring, Auckland Council, prior to implementation.

Advice note: All proposed changes must be discussed with the Team Leader - Northern Monitoring, Auckland Council, prior to implementation. Any changes to the proposal which will affect the capacity of performance of the stormwater system or will result in a change to the conditions of this consent will require an application to be made in accordance with section 127 of the RMA.

Construction Meetings

135. Five working days prior to initiation of any construction of new permanent stormwater treatment devices on the site, a pre-construction site meeting



between the Team Leader - Northern Monitoring, Auckland Council and all relevant parties, including the site stormwater engineer, shall be arranged.

136. The following information shall be provided at the pre-construction meeting:
- (a) Timeframes for key stages of the works authorised under this consent;
 - (b) Contact details of the site contractor and site stormwater engineer; and
 - (c) Approved (signed/stamped) construction plans.

Any resulting modifications to the stormwater management system may be reviewed by Auckland Council at this time and shall be verified in accordance with special **Condition 134** of the industrial and trade activity consent (REG-61544 (42574)).

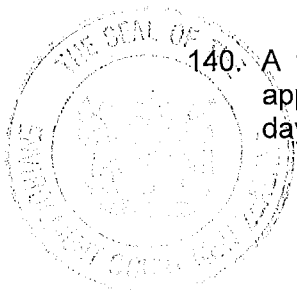
137. Within 30 days of practical completion, a post-construction site meeting shall be arranged and conducted between the Team Leader - Northern Monitoring, Auckland Council and all relevant parties, including the site stormwater engineer.

Certification of Construction Work

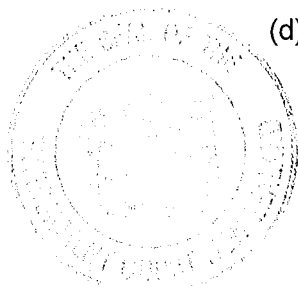
138. Within 30 days of practical completion, As-Built certification and plans of any new permanent stormwater treatment devices, which are certified (signed) by a suitably qualified registered surveyor or engineer as a true record of the management system, shall be provided to the Team Leader - Northern Monitoring, Auckland Council. The As-Built plans shall include, but not be limited to:
- (a) The surveyed location (to the nearest 0.1m) and level (to the nearest 0.01m) of the discharge point from the site, with co-ordinates expressed in terms of NZTM and LINZ datum;
 - (b) Location, dimensions and levels of any major overland flow paths including cross sections and long sections;
 - (c) Plans and cross sections of all structural controls, including confirmation of the Water Quality Volume (where relevant), storage volumes and levels of any outflow control structure; and
 - (d) Documentation of any discrepancies between the design plans and the As-Built plans.
139. Within one year of the commencement of this consent the consent holder shall provide As-Built plans for all existing permanent stormwater treatment devices to the satisfaction of Auckland Council. The As Built plans shall be certified (signed) by a suitably qualified registered surveyor or engineer as a true record of the device. The As-Built plans shall include, but not be limited to:
- (a) Location, dimensions and levels of any major overland flow paths including cross sections and long sections;
 - (b) Plans and cross sections of all structural controls, including confirmation of storage volumes and levels of any outflow control structure;

Operation and Maintenance

140. A final updated Operation and Maintenance Plan shall be submitted for the approval of the Team Leader - Northern Monitoring, Auckland Council within 90 days of the commencement of this consent.

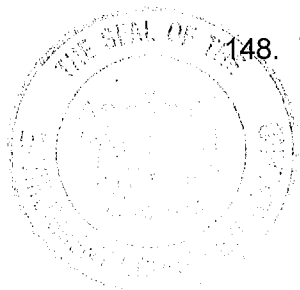


141. The Operation and Maintenance Plan shall set out how the stormwater management system is to be operated and maintained to ensure adverse environmental effects are minimised. The Operation and Maintenance Plan shall include, but not be limited to:
- (a) a programme for regular maintenance and inspection of the stormwater management system ;
 - (b) a programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices;
 - (c) a programme for post storm maintenance;
 - (d) general inspection checklists for all aspects of the stormwater management system, including visual checks;
 - (e) details of who will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this process.
142. The stormwater management system shall be managed in accordance with the approved Operation and Maintenance Plan.
143. Any amendments to the Operation and Maintenance Plan shall be submitted to and approved by the Team Leader - Northern Monitoring, Auckland Council, in writing prior to implementation.
144. Stormwater discharges from the roofs and paved areas within the energy compounds shall be controlled and discharged into one of the four stormwater detention ponds that facilitate discharge from the site.
145. Stormwater discharges from the central fuel area shall be controlled in a bunded area with all discharge flowing into the existing stormwater detention ponds (specifically pond 1) via an oil interceptor.
146. Within 90 days of commencement of this consent, a final Stormwater Monitoring Programme to assess the ongoing adequacy of all stormwater management practices shall be developed and submitted to the Team Leader - Northern Monitoring, Auckland Council for approval.
147. The Stormwater Monitoring Programme shall include, but not be limited to:
- (a) Sampling location for final discharge from the site stormwater detention ponds outlets;
 - (b) Sampling locations from the Rangitopuni Stream;
 - (c) Methods and procedures for stormwater discharge sampling;
 - (d) Monitoring parameters for analysis from the four stormwater pond discharges on a fortnightly basis and shall include:
 - pH



- Temperature °C
 - Total Suspended Solids (TSS) mg/L
 - Alkalinity g CaCO₃/m³
 - Chloride gCl/m³
 - Total ammonical Nitrogen g N/m³
 - Electrical Conductivity (EC) mS/m
 - Dissolved Oxygen g O/m³
- (e) Monitoring parameters for analysis from the four stormwater pond discharges and the stream on a quarterly basis and shall include:
- Temperature °C
 - Total heavy metals(dissolved copper, lead, Cadmium chromium, nickel and zinc) mg/L
 - Oil & grease mg/L
 - Chemical Oxygen Demand (COD) gO/m³
 - Total petroleum hydrocarbons mg/L
- (f) Sampling location for discharges from the site truck wash holding pond;
- (g) Monitoring parameters for analysis from the truck wash holding pond shall include:
- pH
 - Total suspended solids (TSS) mg/L
 - Electric conductivity mS/m
 - Oil and grease mg/L
 - Temperature °C
 - Total ammonical nitrogen g N/m³
- (h) Identified trigger levels for each of the above parameters. Trigger levels for contaminants not included in the schedule submitted with the application (Redvale Landfill Management Plan: Section 44 – Surface Water dated 7/3/13) shall be developed with reference to the 95% trigger value for fresh water ANZECC Guidelines for water quality where applicable.
- (i) The methods and procedures for investigating and reporting stormwater discharge monitoring results to the Team Leader - Northern Monitoring, Auckland Council.
- (j) The Stormwater Monitoring Programme shall be implemented after the commencement of this consent.

148. Within 5 working days of receipt of sample results showing contaminants exceeding the agreed trigger levels:



- (a) an investigation shall be undertaken to determine why exceedances were detected and to identify any additional source controls or treatment required;
- (b) the results of the investigation shall be reported to the Team Leader - Northern Monitoring, Auckland Council. And
- (c) any additional structural or procedural controls proposed by the consent holder shall be approved by the Team Leader - Northern Monitoring, Auckland Council, in writing prior to their implementation.

Reporting Requirements

149. An Annual Report evaluating the site's environmental performance for the preceding year shall be forwarded annually to the Team Leader - Northern Monitoring, Auckland Council from the date of granting of this consent.

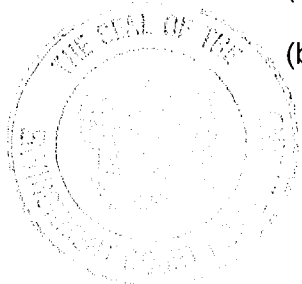
Advice Note: *The month of submission of the Annual Report shall be agreed with the Team Leader - Northern Monitoring, Auckland Council.*

150. The Annual Report shall include but not be limited to:

- (a) all aspects of the performance of the EMP relating to this consent;
- (b) a summary of all revisions and revised sections of the EMP;
- (c) summary details of all inspections and maintenance of the stormwater system for the preceding 12 months;
- (d) details of the person(s) or body responsible for maintenance of site and the organisations structure supporting this process;
- (e) results and analysis of the preceding 12 months stormwater monitoring, along with an interpretation of those results and suggestions for improvement to the site operations; and
- (f) records of any spills or incidents which occurred within the previous 12 months and the response which was undertaken.
- (g) results of continuous monitoring specified in **Conditions 118 and 120** of the diversion and discharge of stormwater consent REG:-61342 (42570).

151. Within three months of completion of the first three years of the water quality monitoring required by **Conditions 118, 120, 123, 124 and 125** of the stormwater consent REG:-61342 (42570) and **Condition 147** of the industrial and trade activity consent REG:-61544 (42574), a monitoring report shall be submitted to the Team Leader - Northern Monitoring, Auckland Council. The monitoring report shall include but not be limited to:

- (a) a summary of the monitoring results to date;
- (b) an interpretation of those results and suggestions for improvement to the site operations;



- (c) a programme for ongoing monitoring including the reporting of results; and
- (d) a programme for the ongoing maintenance of the stormwater management and treatment system.

Specific consent conditions for permit number (NRSI 42575) – earthworks

Pre-Commencement

152. The Team Leader - Northern Monitoring, Auckland Council shall be notified at least five days prior to the start date of any earthworks activities commencing in accordance with this consent, where such earthworks are outside of the surface water catchment of one of the four main sediment retention ponds (SRPs) (Specified Earthworks).

Advice Note: *This condition requires the consent holder to notify the Council of their intention to begin Specified Earthworks a minimum of five working days prior to commencement. Please contact the Team Leader - Northern Monitoring, Auckland Council to advise of the start of works.*

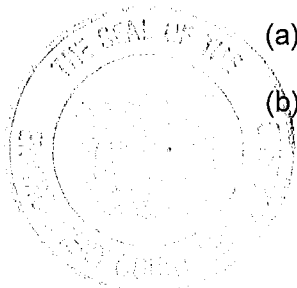
153. Prior to the commencement of Specified Earthworks in accordance with **Condition 152** above, an Erosion and Sediment Control Management Plan (ESCP) shall be prepared in accordance with Auckland Council technical publication TP90 and submitted to the Team Leader - Northern Monitoring, Auckland Council. No Specified Earthworks activity on the subject site shall commence until confirmation from Auckland Council is provided that the ESCP satisfactorily meets the requirements of TP90. The ESCP shall include, but not be limited to:

- (a) Specific erosion and sediment controls
- (b) Supporting calculations and design drawings
- (c) Catchment boundaries and contour information
- (d) Details of construction methods
- (e) Dewatering methods and treatment devices
- (f) Timing and duration of works
- (g) Details of stabilisation measures
- (h) Monitoring and maintenance requirements.

Pre-Construction Meeting

154. Prior to the commencement of Specified Earthworks activity in accordance with **Conditions 152 and 153** above, the consent holder shall hold a pre-start meeting that:

- (a) is located on the site;
- (b) is scheduled not less than five (5) days before the anticipated commencement of earthworks;



- (c) includes an officer from the Resource Consents and Compliance Unit, Auckland Council; and
- (d) includes representation from the contractors who will undertake the works.

The final approved ESCP shall be made available at the pre-start meeting should there be any changes to the approved plan.

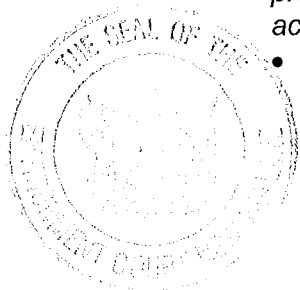
A pre-start meeting shall be held prior to the commencement of the Specified Earthworks activity in each period between October 1 and April 30 that this consent is exercised.

Advice Note: *To arrange the pre-start meeting required by this condition please contact the Team Leader - Northern Monitoring, Auckland Council, at monitoring@aucklandcouncil.govt.nz. The conditions of consent should be discussed at this meeting. All additional information required by the Council should be provided 2 days prior to the meeting.*

- 155. Within ten (10) working days following implementation and completion of the specific erosion and sediment control devices referred to in **Condition 153** and prior to the commencement of Specified Earthworks activity on the subject site, a suitably qualified engineering professional shall provide written certification to the Team Leader - Northern Monitoring, Auckland Council, that the erosion and sediment control measures have been constructed and completed in accordance with Auckland Council's Technical Publication 90 (TP90) unless a different standard has been specifically approved. Written certification shall be in the form of a report or any other form acceptable to the Council.
- 156. All perimeter controls shall be operational before Specified Earthworks commence. All 'cleanwater' runoff from stabilised surfaces including catchment areas above the site shall be diverted away from earthworks areas via a stabilised system, so as to prevent surface erosion.
- 157. No sediment laden runoff from Specified Earthworks shall leave the site without prior treatment via an approved sediment control device.
- 158. Notice shall be provided to the Team Leader - Northern Monitoring, Auckland Council, at least two (2) working days prior to the removal of any erosion and sediment control devices specifically required for Specified Earthworks as a condition of resource consent or by the approved ESCP.
- 159. Prior to the completion or abandonment of Specified Earthworks on the subject site, all areas of bare earth shall be permanently stabilised against erosion to the satisfaction of the Team Leader - Northern Monitoring, Auckland Council.
- 160. The site shall be progressively stabilised against erosion at all stages of the Specified Earthworks activity, and shall be sequenced to minimise the discharge of contaminants to groundwater or surface water in accordance with the approved ESCP.

Advice Note: *In accordance with this condition Specified Earthworks shall be progressively stabilised against erosion during all stages of the earthwork activity. Interim stabilisation measures may include:*

- *the use of waterproof covers, geotextiles, or mulching*



- aggregate or vegetative cover that has obtained a density of more than 80% of a normal pasture sward.

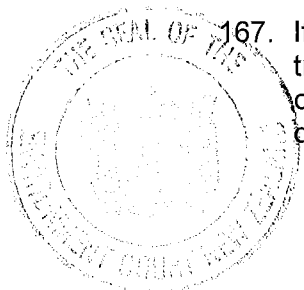
It is recommended that you discuss any potential measures with the Council's monitoring officer who may be able to provide further guidance on the most appropriate approach to take. Please contact the Team Leader - Northern Monitoring, Auckland Council, for more details. Alternatively, please refer to Auckland Regional Council, Technical Publication No. 90, Erosion & Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region.

Maintenance and Monitoring

161. The earthworks and construction associated with the landfill, diversion channels and any Specified Earthworks shall be designed and carried out in such a way so as to minimise instability of the surrounding land.
162. The consent holder shall repair and rehabilitate any land made unstable by the construction or maintenance of the diversion channels, landfilling operations and any Specified Earthworks.
163. There shall be no deposition of earth, mud, dirt or other debris on any public road or footpath resulting from earthworks activity on the site. In the event that such deposition does occur, it shall immediately be removed.
164. The erosion and sediment control measures shall be inspected to ensure effective operation on a daily basis and within 24 hours after a significant storm event during the construction by the contractors. Any maintenance needs identified during the inspections, to ensure the devices continue to operate at full operation capacity shall be carried out as soon as practicable. A record shall be maintained of the date, time and any maintenance undertaken in association with this condition, which shall be forwarded to the Auckland Council upon request.

Staging Limits

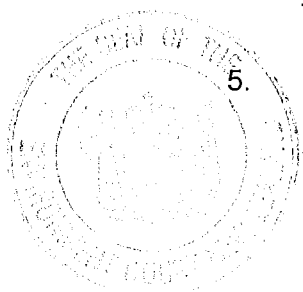
165. During the earthworks season (October to April), the total area of bare unlined earthworks exposed at one time across the landfill site shall be limited to 25ha. During winter months (May to September), the total area of earthworks exposed at one time shall be limited to 10ha. Revegetation/stabilisation is to be progressively undertaken to ensure these limits are managed. These limits may be exceeded only with prior written approval of the Team Leader - Northern Monitoring, Auckland Council, at least two weeks prior to a proposed exceedance occurring.
166. No bulk earthworks on the subject site relating to Specified Earthworks shall be undertaken between 30 April and 1 October in any year, without the submission of a 'Request for winter works' to the Team Leader - Northern Monitoring, Auckland Council. All requests must be renewed annually, and must be submitted at least 10 days prior to 30 April each year. No works shall occur until written approval has been received from the Team Leader - Northern Monitoring, Auckland Council. All winter works will be assessed monthly to ensure that adverse effects are not occurring in the receiving environment.
167. If in the opinion of the Team Leader - Northern Monitoring, Auckland Council, the treatment ability of sediment control devices requires augmenting by the addition of chemical flocculents to prevent adverse off-site effects from sediment discharges, a Chemical Treatment Management Plan shall be submitted for



written approval by the Team Leader, and subsequently implemented upon approval.

ADVICE NOTES

1. Please read the conditions of these resource consents carefully and make sure that you understand all the conditions that have been imposed before commencing the works authorised by this consent.
2. The consent holder will need to obtain all other necessary consents and permits, including those under the Building Act 2004, and the Heritage New Zealand Heritage Pouhere Taonga Act 2014. This consent does not remove the need to comply with all other applicable Acts (including the Property Law Act 2007), regulations, relevant Bylaws, and rules of law. This consent does not constitute building consent approval. Please check whether a building consent is required under the Building Act 2004. Please note that the approval of this resource consent, including consent conditions specified above, may affect a previously issued building consent for the same project, in which case a new building consent may be required.
3. A copy of these consents should be held on site at all times during the establishment and construction phase of the activity. The consent holder is requested to notify Council, in writing, of their intention to begin works, a minimum of seven days prior to commencement. Such notification should be sent to the Council's Team Leader, Northern Monitoring, Orewa and include the following details:
 - name and telephone number of the project manager and the site owner;
 - site address to which the consent relates;
 - activity to which the consent relates; and
 - expected duration of works.
4. The granting of these resource consents does not in any way allow the consent holder to enter and construct drainage within neighbouring properties, without first obtaining the agreement of all owners and occupiers of said land to undertake the proposed works. Any negotiation or agreement is the full responsibility of the applicant, and is a private agreement that does not involve Council. Should any disputes arise between the private parties, these are civil matters which can be taken to independent mediation or disputes tribunal for resolution. It is recommended that the private agreement be legally documented to avoid disputes arising. To obtain sign-off for the resource consents, the services (if any) described by the conditions above are required to be in place to the satisfaction of Council.
5. Compliance with the consent conditions will be monitored by Council in accordance with section 35(d) of the RMA. This will typically include site visits to verify compliance (or non-compliance) and documentation (site notes and



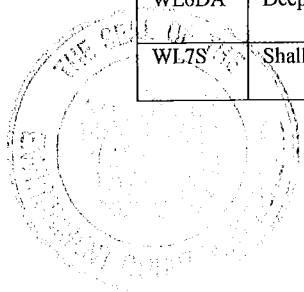
photographs) of the activity established under the resource consents. In order to recover actual and reasonable costs, inspections, in excess of those covered by the base fee paid, shall be charged at the relevant hourly rate applicable at the time. Only after all conditions of the resource consent(s) have been met, will Council issue a letter on request of the consent holder.



Schedule 1:

Monitoring Boreholes at Redvale Landfill Site 15 June 2014
(see also Drawing One)

Site Bore Name	Comment	AC Bore ID	Water Levels	Water Quality	Ground Elevation (mRL)	Elevation at top of casing	Easting (NZTM)	Northing (NZTM)	Casing Depth	Borehole Depth
M1A			yes	Yes	67.77	68.41	1745359	5942032		15.00
M2B			yes	Yes	71.85	72.5	1745776	5941876		31.20
M7A	To be re-drilled		yes	Yes	55.16	56.15	1745818	5941051		16.70
M8A			yes	Yes	54.94	55.9	1745983	5941328		16.80
M9A			yes	Yes	57	57.88	1745058	5941580		16.53
M10A			yes	Yes	59.14	60.14	1746111	5941785		16.74
M11A			yes	Yes	64.21	65.01	1745210	5942013		15.00
M12A			yes	Yes	67.04	67.84	1745076	5941966		15.00
M13		Baseline from 2018	yes	Yes	73	73.64	1744845	5941931		12.50
WM1B			yes	yes	63.6	64.36	1745481	5941150		24.60
WL1S	Shallow	To be drilled	yes							
WL1D	Deep	To be drilled	yes							
WL2S	Shallow		yes		62.1	n/a	1745602	5941134		7.50
WL2D	Deep		yes		62.1	n/a	1745602	5941134		18.0
WL3S1	Shallow		yes		51.24	n/a	1745871	5941166		6.01
WL3D1	Deep		yes		51.33	n/a	1745871	5941172		13.41
WL4S	Shallow		yes		56.66	n/a	1746010	5941390		3.05
WL4D	Deep		yes		56.66	n/a	1746010	5941390		9.10
WL5S	Shallow		yes		60.18	n/a	1746083	5941673		1.45
WL5D	Deep		yes		60.18	n/a	1746083	5941673		5.90
WL6SA	Shallow		yes		71.72	n/a	1745776	5941878		12.40
WL6DA	Deep		yes		71.55	n/a	1745776	5941880		27.20
WL7S	Shallow		yes		78.57	n/a	1745471	5942022		11.94



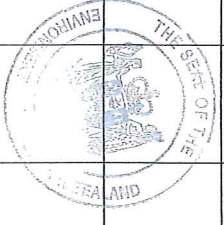
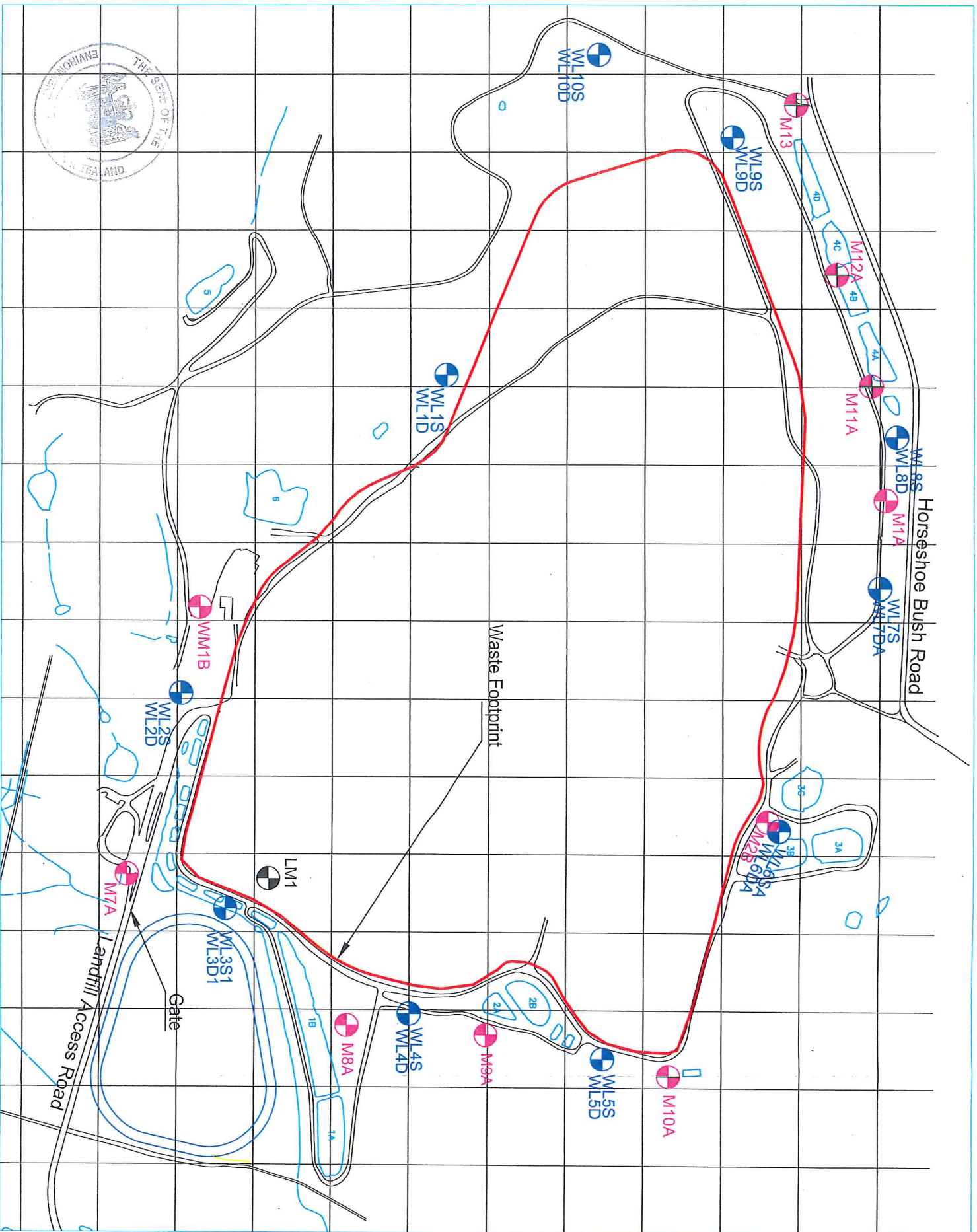
WL7DA	Deep		yes		77.21	n/a	1745484	5942036		15.00
WL8S	Shallow		yes		65.39	n/a	1745264	5942030		9.00
WL8D	Deep		yes		65.43	n/a	1745267	5942031		16.00
WL9S	Shallow	To be drilled	yes							
WL9D	Deep	To be drilled	yes							
WL10S	Shallow	To be drilled	yes							
WL10D	Deep	To be drilled	yes							
LM1	To measure the depth of leachate level in the lowest part of the landfill perimeter	To be drilled	Yes - leachate level	No						To the base of Phase 1

Drawing One



© COPYRIGHT THE DESIGN SHOWN ON THIS DRAWING REMAINS THE PROPERTY OF WASTE MANAGEMENT NZ LTD. AND MUST NOT BE REPRODUCED WITHOUT THE OWNERS PERMISSION.

Notes:



No.	Description	Author	Checked	Approved	Date
1	Design	Waste Management			20/02/14
2	Final Review				27/02/14



Operational and Technical Services
 Landfill Access Road,
 RD 4, Albany 0794, Auckland
 Ph +64 (09) 427 0600
www.wastemanagement.co.nz

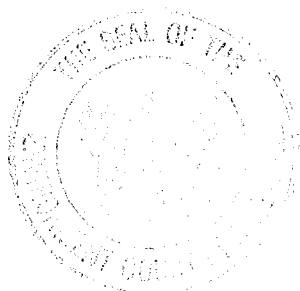
Category	Name	Date
Design	SH	21/10/13
Drawn	WV	21/10/13
Checked	SH	21/10/13
Scale	ASAT:1:500	

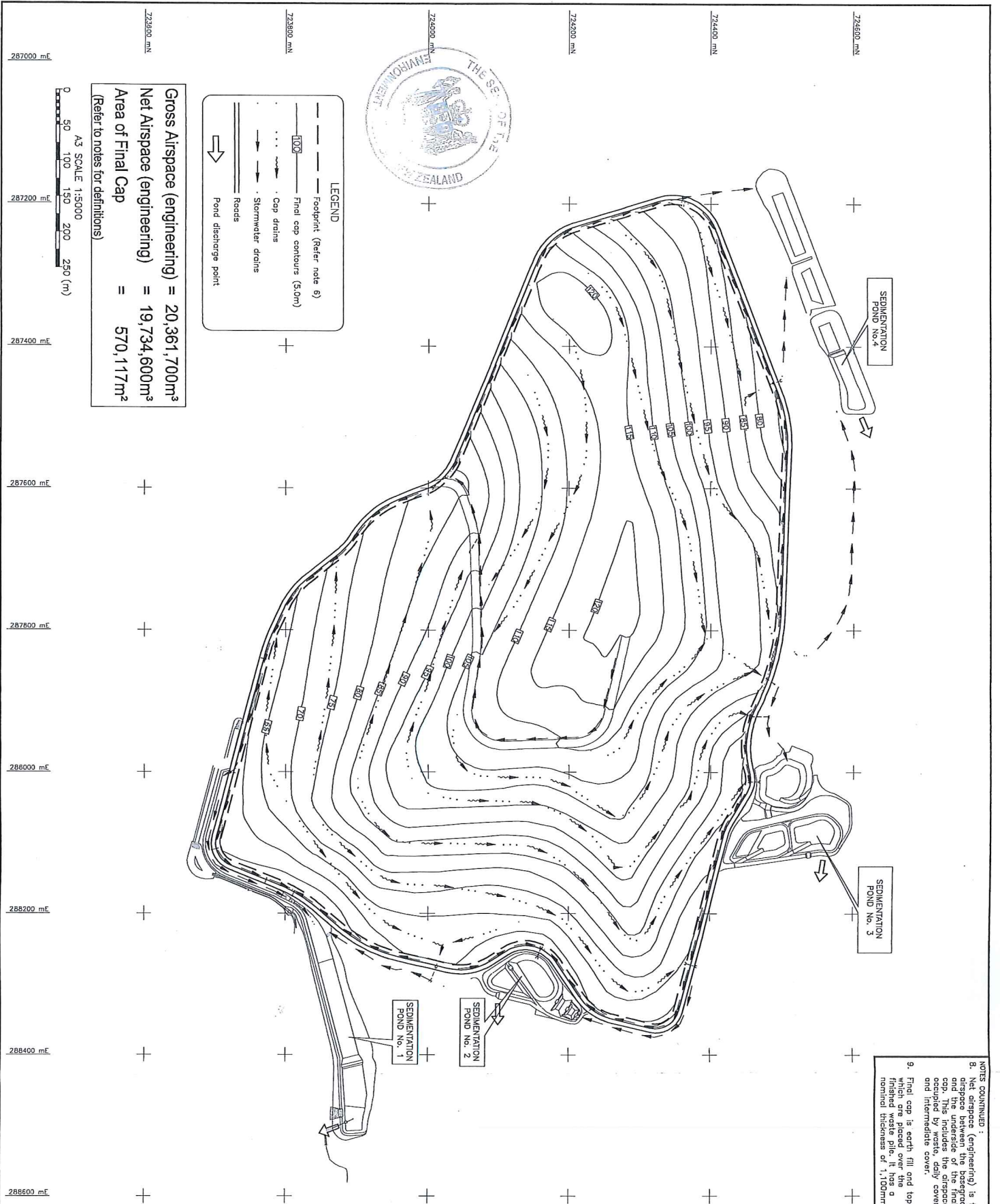
REDVALE LANDFILL
 Monitoring Borehole
 Locations

Drawing Number	Rev.
SITE-SU-0616	2

Schedule 2:

- Tonkin & Taylor Ltd Redvale Landfill Consent Renewal Final Cap Contours & Drainage Plan (29331-05 Rev B)
- Tonkin & Taylor Ltd, Redvale Landfill Consent Renewal Basegrade and Phase Layout Plan (29331-03 Rev B)





Gross Airspace (engineering) = 20,361,700m³
Net Airspace (engineering) = 19,734,600m³
Area of Final Cap = 570,117m²
 (Refer to notes for definitions)



NOTES CONTINUED:
 8. Net airspace (engineering) is the airspace between the basegrade cap. This includes the airspace occupied by waste, daily cover and intermediate cover.
 9. Final cap is earth fill and topsoil finished waste pile. It has a nominal thickness of 1,100mm.

- NOTES:**
- All dimensions are in millimetres unless noted otherwise.
 - Coordinate Datum: NZ Geodetic 1949
 M: Eaten Circuit Coordinates
 Origin: 700000 mN
 300000 mE
 Level Datum: LINZ (MSL)
 Auckland Vertical Datum 1946 known as "Cap 2008".
 - Final cap contours are from surface design for settlement.
 - Cap drain locations are approximate only and are subject to detailed design for settlement.
 - Cap area is based on the footprint line.
 - Footprint is the outer edge of the area in plan view within which the waste can be placed.
 - Gross airspace (engineering) is the airspace between the basegrade and the upper surface of the final cap. This includes the airspace occupied by waste, daily cover, intermediate cover and final cap.

A. Resource Consent Issue		AMS	Rev.
REVISION DESCRIPTION	BT	DME	
DESIGNED :	AMS	JUL.13	
DRAWN :	JWP	JUL.13	
DESIGN CHECKED :	JWP	7/15	
DRAWING CHECKED :	JWP	7/15	
REFERENCE :			

NOT FOR CONSTRUCTION
 This drawing is not to be used for construction purposes. CONSULT THE DRAWING FOR RESERVATION COPYRIGHT ON THIS DRAWING IS RESERVED

TNT
Tonkin & Taylor
 Environmental and Engineering Consultants
 105 Canton Gore Road, Newmarket, Auckland
 Tel. (09) 365 6000 Fax. (09) 307 0265
 www.tonkin.co.nz

Waste Management
REDVALE LANDFILL
CONSENT RENEWAL

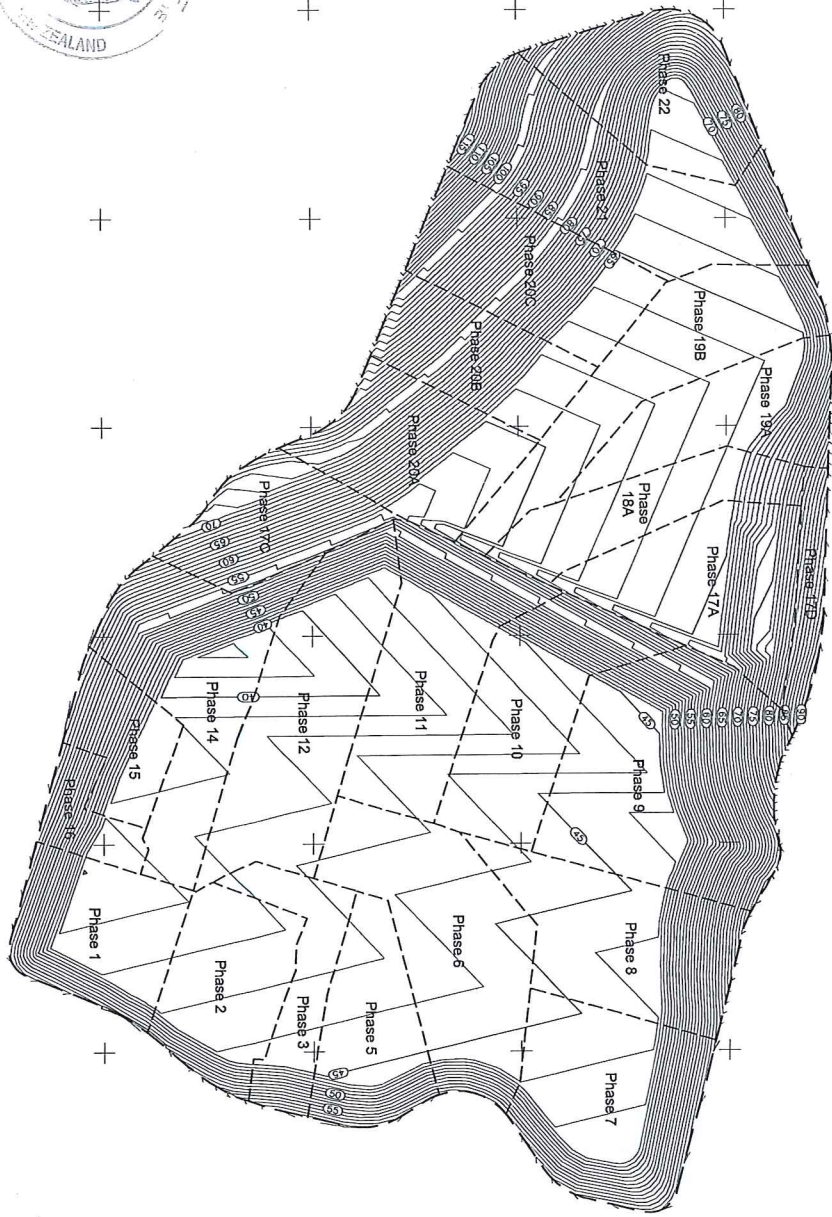
Final Cap Contours & Drainage Plan
 Scale: A3 1:5000
 Date: 29/3/15
 Rev: B

DRAWING STATUS: RESOURCE CONSENT



LEGEND

- Footprint (Refer note 6)
- Basegrade contours (5m)
- Basegrade contours (1m)
- Phase boundaries



287200 mE 287400 mE 287600 mE 287800 mE 288000 mE 288200 mE 288400 mE 288600 mE

284600 mN

284400 mN

284200 mN

284000 mN

283800 mN

283600 mN

DRAWING STATUS: RESOURCE CONSENT

- NOTES :**
- All dimensions are in metres unless noted otherwise.
 - Coordinate Datum: NZ Geodetic 1949
Mt Eden Circuit Coordinates
Origin: Mt Eden 18
100,000 mE
300,000 mN
Level Datum: LINZ (MSL)
Auckland Vertical Datum, 1946
 - Basegrade contours are from surface known as Basegrade 20'0".
 - There is no "Phase 4" and no "Phase 13".
 - As at 25 November 2013:
-Phases 1 to 16, 17A, 17C and 18A have been constructed and one Phase 17B and 18A are under construction.
-Phases 19B to 22 are indicative only and subject to detailed design.
 - Footprint is the outer edge of the area in plan view within which waste can be placed.
 - Basegrade is the upper surface of the liner protection layer (and lining system) which waste is placed.

REVISION DESCRIPTION	BY	DATE
A. Resource Consent Issue	AWS	Nov. 13
DESIGNED :	AWS	Aug. 13
DRAWN :	JWP	Aug. 13
DESIGN CHECKED :	JWP	Aug. 13
CHECKED :	JWP	Aug. 13
REFERENCE :		

DATE: \\29331\200-03.dwg

NOT FOR CONSTRUCTION

This drawing is not to be used for construction purposes unless agreed or approved.

Tonkin & Taylor
Environmental and Engineering Consultants
105 Carlton Gore Road, Newmarket, Auckland
Tel: (09) 355 6000 Fax: (09) 307 0265
www.tonkin.co.nz

Waste Management

REDDVALE LANDFILL

CONSENT RENEWAL

Basegrade & Phase Layout Plan

SCALE: 1:5000
DWG No: 29331-03
REV: B