

## Discharge Permit

**Under Section 104B** of the Resource Management Act 1991, a resource consent is granted by the Southland Regional Council to **AB Lime Limited** of **10-20 Bend Road, Kings Bend, Winton 9741** from **16 July 2021**.

**Please read this Consent carefully, and ensure that any staff or contractors carrying out activities under this Consent on your behalf are aware of all the conditions of the Consent.**

### Details of Permit

Purpose for which permit is granted: To discharge solid waste onto or into land.

Location	- site locality	10-20 Bend Road, Kings Bend, Winton
	- GPS reference	NZTM2000
	- groundwater zone	Lower Oreti
	- catchment	Tussock Creek

Legal description of land at the site: Part Section 71 Block VIII Winton Hundred, and Section 70, 75, 76, 77 & 78 Block VIII Winton Hundred

**Expiry date:** 6 August 2046

### Schedule of Conditions

#### *General Conditions*

1. This consent is subject to the general conditions listed in Schedule 1 – General Conditions. Where there may be differences, or apparent conflict, between the general conditions and the conditions below, the specific conditions below shall prevail.

**Limit Conditions**

2. The discharge of waste is authorised only on the areas of the site identified as the landfill footprint, as shown on drawing number IZ000400-1000-NG-DRG-1002 attached to this consent.

**Design Conditions**

3. (a) The leachate containment and leachate collection system for the base of the landfill, and any side slopes with a slope less than 2H:1V, shall consist of the following as a minimum, from bottom to top:

- a groundwater underdrainage system;
- a minimum of 600 millimetres of compacted soil with a permeability coefficient (k) not exceeding  $1 \times 10^{-9}$  metres per second;
- a 1.5 millimetre high density polyethylene (HDPE) flexible membrane liner;
- a 300 millimetre minimum liner protection/leachate collection layer of granular material with a permeability coefficient (k) of not less than  $1 \times 10^{-3}$  metres per second.

or

- a groundwater underdrainage system;
- a minimum of 300 millimetres of compacted soil with a permeability coefficient (k) not exceeding  $1 \times 10^{-9}$  metres per second;
- a geosynthetic clay liner (GCL), with a minimum thickness of 5 millimetres, a permeability coefficient (k) not exceeding  $5 \times 10^{-11}$  metres per second;
- a 1.5 millimetre high density polyethylene (HDPE) flexible membrane liner;
- a 300 millimetre minimum liner protection/leachate collection layer of granular material.

or

- a groundwater underdrainage system;
- a minimum of 600 millimetres of compacted soil with a permeability coefficient (k) not exceeding  $1 \times 10^{-8}$  metres per second;
- a geosynthetic clay liner (GCL), with a minimum thickness of 5 millimetres, a permeability coefficient (k) not exceeding  $5 \times 10^{-11}$  metres per second;
- a 1.5 millimetre high density polyethylene (HDPE) flexible membrane liner;
- a 300 millimetre minimum liner protection/leachate collection layer of granular material.

- (b) An alternative to the above minimum specifications may be proposed and included in the Landfill Operations Management Plan subject to being confirmed as equivalent to the above by the Independent Management Plan Reviewer(s) and certified by the Southland Regional Council.

4. (a) The leachate containment system for the side slopes of the landfill, with a slope of 2H:1V or greater shall consist of the following as a minimum, from bottom to top:

- a groundwater underdrainage system where required by the Landfill Operations Management Plan;

- a geosynthetic clay liner, with a minimum thickness of 5 millimetres, a permeability coefficient (k) of not exceeding  $5 \times 10^{-11}$  metres per second and sufficient internal shear strength to maintain a stable configuration on slopes;
- a 2.0 millimetre HDPE flexible membrane liner; and
- a 300 millimetre minimum liner protection layer of soil or clay or granular material.

- (b) An alternative to the above minimum specifications may be proposed and included in the Landfill Operations Management Plan subject to being confirmed as equivalent to the above by the Independent Management Plan Reviewer(s) and certified by the Council, in accordance with the Management Plan Amendment Process set out in conditions G13 to G16 of Schedule 1.

**Advice Note:** *A groundwater underdrainage system may be required where karstic features are intercepted in the side walls.*

5. The Consent Holder shall prepare landfill side slopes, to ensure a smooth surface appropriate for the placement of geosynthetic liner materials. This shall include the smoothing of rough surfaces, sealing of solution features or compaction of slopes to an appropriate bearing capacity.
6. The leachate collection system shall be designed to maintain a leachate head of less than 300 millimetres on the base liner and side liner, as provided for in the Landfill Leachate Management Plan.
7. (a) Final cover and capping shall be constructed to the following minimum specification, from bottom to top, as each stage of the landfill is completed:
- 300 millimetres intermediate cover/regulating layer of compacted soil;
  - 600 millimetres of compacted clay, overburden, or soil material, with a permeability coefficient (k) not exceeding  $1 \times 10^{-7}$  metres per second;
  - 300 millimetres of compacted soil (growth layer);
  - 150 millimetres of topsoil.
- or
- 300 millimetres intermediate cover/regulating layer of compacted soil;
  - a geosynthetic clay liner (GCL) with a permeability coefficient (k) not exceeding  $1 \times 10^{-7}$  metres per second;
  - 300 millimetres of compacted soil (growth layer).
  - 150 millimetres of topsoil.
- (b) An alternative to the above minimum specifications may be proposed and included in the Landfill Operations Management Plan subject to being confirmed as equivalent to the above by the Independent Management Plan Reviewer(s) and certified by the Southland Regional Council in accordance with the Management Plan Amendment Process set out in conditions G13 to G16 of Schedule 1.
8. The Consent Holder shall construct surface water control measures on the finished landfill surface so as to minimise erosion of the final cover.

9. The HDPE component of composite lining systems may be replaced with an alternative material, following acceptance in writing by the Southland Regional Council, where an alternative material is demonstrated to provide at least the equivalent, or superior, performance in terms of:
  - puncture resistance;
  - resistance to chemical degradation;
  - hydraulic containment;
  - physical strength and deformation characteristics under service and seismic loads;
  - welding and general installation; and
  - expected service life.
10. Liner components comprising synthetic or geo-synthetic materials shall be constructed in accordance with the manufacturer's recommended quality assurance/quality control procedures.
11. The containment system for the stormwater pond shall consist of the following, from bottom to top:
  - a proof rolled base surface;
  - a minimum of 300 millimetres of compacted clay (constructed in two uniform lifts) with a permeability coefficient (k) of not more than  $1 \times 10^{-9}$  metres per second;
  - a protection layer on the base and sides of the compacted clay liner to minimise degradation, desiccation, and damage due to wave action.
12. The landfill gas collection and leachate recirculation systems shall be designed to prevent puncture of the landfill liner by system components. In particular, any vertical wells or pipes installed for the collection of landfill gas, or re-injection of leachate into the landfill, shall terminate at a height above the base or side liner that will ensure that pipes, or wells, will not puncture the liner as a result of refuse settlement, or incorporate other appropriate design features that allow for expected settlement.
13. (a) Following a construction trial, a Final Capping Specification and Quality Control Standard will be produced and provided to the Independent Peer Reviewer(s) for review and confirmation that it achieves compliance with the conditions. Once accepted by the Peer Reviewer(s), it shall then be provided to the Southland Regional Council for consideration and final certification.  
  
(b) Any subsequent change to these specifications and standards must follow the same acceptance and certification process identified in Condition (13)(a).

**Advice Notes**

1. *The acceptance process has been assigned to the independent peer reviewer(s). This specification is then submitted to Southland Regional Council for final certification. The Southland Regional Council remains the authority for making a final decision on the certification of the document.*
2. *The independent peer review process remains separate to the management plan acceptance/certification process. This certified specification may be incorporated into the relevant management plan(s) without going through the process specified in Schedule 1 –*

*General Conditions (13)-(16) to stop unnecessary duplication of the acceptance and certification process.*

14. An at least annual review of waste acceptance criteria (contained in Schedule 2) and prohibited items shall be undertaken by the consent holder and a report prepared identifying any changes and/or additions to be made to update the criteria to be consistent with new legislation, regulations and/or guidance from relevant governmental organisations. The report will be provided to the Independent Management Plan Reviewer(s) for review and confirmation that it is appropriate. Once accepted by the Peer Reviewer(s), it shall then be provided to the Southland Regional Council for consideration and final certification.

The certified criteria must be incorporated into the Landfill Operations Management Plan.

In the case of substantial disagreement between the Consent Holder and the Independent Management Plan Reviewer(s) in addressing recommendations, the Southland Regional Council as certifier of the management plans shall make the final determination on an outstanding matter. Any costs incurred in determining this outcome shall be borne by the Consent Holder.

15. No bulk liquid waste shall be accepted for disposal. The definition of liquid waste shall be any waste that contains free liquid on arrival at the landfill, or has a solids content of less than 20 percent, except such waste that passes the USEPA Paint Filter Liquids Test (EPA Method 9095A).
16. Medical wastes shall be accepted only in accordance with NZS 4304:2002 "Health Care Waste Management" or subsequent amendments.
17. Asbestos wastes shall be accepted only in accordance with the Health and Safety in Employment (Asbestos) Regulations 2016, or subsequent amendments.
18. (a) Where, during landfill operations, the Consent Holder is required to accept waste by a Government Agency as a crisis or emergency response, the following protocol shall apply:
  - (i) All crisis response waste acceptance shall trigger the protocol identified in the Crisis/Emergency Response chapter of the Landfill Operations Management Plan and Landfill Air Quality Management Plan.
  - (ii) The Consent Holder shall notify the Southland Regional Council Compliance Manager within 24 hours of the acceptance of this waste, being the time it is confirmed that the waste will be received.
  - (iii) A management response in line with the criteria identified within the Crisis/Emergency Response chapter of the Landfill Operations Management Plan and Landfill Air Quality Management Plan shall be made available to the Southland Regional Council within 3 days of notification of Condition (18)(a)(ii), above.
  - (iv) All likely affected neighbours (as provided in the Landfill Operations Management Plan), Te Rūnanga o Awarua and Waihōpai Rūnaka (via Te Ao Marama Inc.) and Hokonui Rūnanga are to be notified of the crisis/emergency waste stream prior to acceptance on site, or as soon as practicable.
  - (v) Mitigation measures for crisis/emergency waste shall follow the guidelines identified in the Crisis/Emergency Response chapter of the Landfill Operations Management Plan and Landfill Air Quality Management Plan.
- (b) All waste accepted under a crisis or emergency response must meet the waste criteria stipulated in this consent.

**Advice Note:** *There may be instances when the Consent Holder is required to accept waste under the direction of a Government Agency. Where that occurs the provisions of the relevant legislation will apply and may override the conditions of this consent.*

19. For other than minor amounts of offal, the Consent Holder shall:

- require all offal to be disposed of to be pre-booked by the waste generator or transporter, and only be accepted in discrete loads;
- record information on the source of the offal, including the origin of the animals;
- record information on the cause of death of the animals from which the offal is sourced;
- dispose of the offal in accordance with the Landfill Operations Management Plan;
- cover each load of offal immediately following deposition; and
- record the location of each pit used for the disposal of offal.

For the purposes of this consent, 'minor amounts of offal' refers to small quantities that may be found in domestic waste.

20. Material contaminated with methamphetamine and/or chemicals associated with the manufacture of methamphetamine may be accepted into the landfill provided that the level of contamination does not exceed 100 µgm/cm<sup>2</sup>, based on an average by weight per individual household lot. The material that may be accepted includes wall linings (including gib board), soft furnishing (e.g. Curtains, carpets), furniture, bedding, clothing and whiteware. Actual stocks of chemicals used in, or leftover from, methamphetamine manufacture are also excluded from this condition.

The Consent Holder shall:

- (i) record the date, source, volume, and nature of the material received;
- (ii) keep a record of monitoring data that confirms the contamination level of the material; and
- (iii) record the location where the material is placed within the landfill in three dimensions.

21. With the exception of medical wastes, and asbestos wastes, no hazardous waste shall be accepted for disposal at the landfill. For the purposes of this consent, the definition of "hazardous waste" shall include:

- (i) wastes which are explosive, flammable, oxidising, or corrosive, or, which are identified as possessing these characteristics in the HSNO regulations;
- (ii) wastes capable, by any means after disposal, of yielding another material, for example, leachate, which possesses any of the above characteristics;
- (iii) wastes which exhibit the characteristics of toxicity and eco-toxicity which following testing using the USEPA Toxicity Characteristic Leaching Procedure (TCLP) result in leachable concentrations of contaminants in excess of the leachable concentration limits listed in Schedule 2;
- (iv) wastes which exhibit the characteristics of toxicity and eco-toxicity with total concentrations in excess of the total concentration limits listed in Schedule 2;
- (v) wastes that contain substances that are persistent, bio accumulative and toxic, except as provided for in Schedule 2;

- (vi) wastes which are radioactive and controlled under the Radiation Safety Act 2016. For avoidance of doubt this does not apply to incidental radioactive material that is reasonably expected to be contained within municipal waste stream, such as smoke detectors;
- (vii) Aluminium Dross Waste.

Schedule 2 is incorporated into the Landfill Operations Management Plan and may be updated from time to time to in accordance with Condition 14 above.

Where leachable concentration or total concentration limits do not exist in Schedule 2 for a substance for which a disposal request is made, the leachable limit, following testing using the USEPA TCLP shall be set at the lesser of:

- NZS 9201 Trade Waste Bylaw limits; or
- 100 times the New Zealand water quality standards to which all drinking-water supplies must comply as per the Drinking Water Standards for New Zealand 2005 (revised 2018); or
- 1000 times the Default Guideline Values in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, August 2018.

The definition of “hazardous waste” shall not include small quantities of waste products containing potentially hazardous components that are not likely to have adverse effects on the environment, such as can reasonably be expected to be contained in the municipal waste stream.

To minimise the potential for hazardous waste to be disposed of at the landfill the following measures shall be taken:

- use of a waste manifest/disposal agreement system to authorise landfill loads/users and document waste acceptance;
- notice shall be clearly positioned at the landfill entrance to identify the hazardous wastes which are unacceptable at the landfill; and
- random inspections of incoming loads, for the presence of hazardous waste, shall be undertaken, at the average rate of at least one inspection per 50 loads.

**Advice Notes:**

1. *This condition does not limit the consent holder’s obligations with respect to other legislation that controls disposal of any substances, products or materials, such as the Hazardous Substances and New Organisms Act. It is the consent holder’s obligation to ensure compliance with all relevant legislation, irrespective of anything in the conditions of this consent.*
2. *The definition of persistent bioaccumulative and toxic compound is any compound that meets the criteria as defined in Annex D of the Stockholm Convention.*

22. The lateral extent of the landfill working face shall be kept to a practical minimum. The extent of the area between load tipping and load spreading shall be minimised at all times.

**Advice Note:** *Indicatively the application documentation referred to maintaining a working face of approximately 1000 m<sup>2</sup> during normal operations*

23. (a) At the end of each working day, all refuse placed in the working face area shall be covered with soil or equivalent material. Cover shall be applied at the end of each day to a depth of approximately 150 millimetres in accordance with the Landfill Operations Management Plan.
- (b) An alternative to the above minimum specifications may be proposed and included in the Landfill Operations Management Plan subject to being confirmed as equivalent to the above by the Independent Management Plan Reviewer(s) and certified by the Council.

### **Monitoring and Reporting**

24. The Consent Holder shall maintain, a record of the quantities and types of waste accepted at the landfill, including the location (in three dimensions) of:

- treated hazardous wastes;
- special wastes (as listed in the Landfill Operations Management Plan); and
- emergency response waste.

A copy of this record shall be forwarded to the Southland Regional Council annually, unless otherwise agreed in writing by the Southland Regional Council.

25. The Consent Holder shall immediately notify the Southland Regional Council if any vehicle(s) is turned away from the landfill with waste that does not comply with the waste acceptance criteria detailed in Conditions (15)-(17), (19)-(21). This notification shall include the vehicle registration number and source of the waste (if known).
26. The Consent Holder shall monitor water quality in existing groundwater monitoring wells SKM104, SKM201, SKM202, SKM203 and SKM204, as indicated on drawing number IZ000400-1000-NG-DRG-1008 attached to this consent, and at the two additional wells authorised by AUTH 20202200-06.

To this end the Consent Holder shall monitor water level every month, and water quality for the following parameters four times a year:

- pH (field and laboratory)
- Conductivity (field and laboratory)
- Turbidity
- Chloride
- Total Ammoniacal Nitrogen
- COD
- Soluble Iron
- Soluble Manganese
- Soluble Aluminium



- Soluble Arsenic
- Soluble Cadmium
- Soluble Chromium
- Soluble Copper
- Soluble Nickel
- Soluble Lead
- Soluble Zinc
- Total hardness
- Alkalinity
- Potassium
- Sulphate
- Sodium
- Magnesium
- Calcium
- Bicarbonate
- Total Phenols
- Volatile Acids
- Dissolved Reactive Phosphorus
- Total Organic Carbon
- Total Kjeldahl Nitrogen
- Nitrate Nitrogen

The Consent Holder shall monitor for the following parameters once every year, to coincide with summer groundwater minimum levels:

- Volatile Organic Compounds
- Semi-volatile Organic Compounds

Sampling shall be undertaken under protocols approved in writing by the Southland Regional Council, including on site filtration and preservation of samples for soluble metals analysis. An ion balance to APHA criteria shall be provided for the anions and cations.

The results of such monitoring shall be reported in writing to the Southland Regional Council within two months of sampling.

27. The Consent Holder shall undertake a formal inspection of the landfill cap following significant storm events (greater than 50 percent AEP at a duration of less than one day), and at least every six months. The inspection shall check for:

- Vegetation die-off;
- Cracking of the cap surface;
- Subsidence and erosion;
- Leachate break-out through the cap; and
- Refuse protruding through the cap.

Any defects noticed during the inspection shall be remedied immediately.

A report on the inspection, and details of any remedial actions undertaken as a result, shall be forwarded to the Southland Regional Council within two months of each inspection.

28. Pursuant to Section 128 of the Resource Management Act 1991, the Southland Regional Council may commence a review of Conditions (15)-(17), (19)-(21) of this consent within six months of the publication of any change in the national definition of hazardous wastes, or the publication of new national policies, regulations, standards or guidelines on landfill waste acceptance or the treatment and/or disposal of wastes with hazardous properties.

Costs relating to the above any such reviews undertaken shall be borne by the Consent Holder.

29. Pursuant to Section 128 of the Resource Management Act 1991, the Southland Regional Council may commence a review of the conditions of this consent at annual intervals from the anniversary date of this consent or within six months after cessation of landfilling operations at the site, in order to ensure that:

- (i) refuse acceptance criteria and discharge areas and practices are appropriate to avoid or reduce adverse effects on the environment; and
- (ii) leachate, groundwater and surface water management systems and management practices are appropriate to avoid or reduce adverse effects on the environment; and
- (iii) an appropriate effects monitoring programme is being undertaken.
- (iv) The quantum of the bond remains adequate

Costs relating to the above reviews shall be borne by the Consent Holder.

for the **Southland Regional Council**



Bruce Halligan  
**Acting Consents Manager**

## **Schedule 1 – General Conditions**

**The granting of consent AUTH-20202200-01 is subject to the following general conditions, which shall apply to each individual consent:**

- GC1. The Consent Holder has five years from the granting of these consents to give effect to the consents in accordance with S.125 of the Act. The surrender of the relevant existing consents will occur at the time these consents are given effect to.
- GC2. (a) Except as required by subsequent or more specific conditions, the development and operation of the solid waste disposal facility and associated operations shall be carried out generally in accordance with the Application Documentation submitted on 29 May 2020; the subsequent information submitted on 2 September 2020 and 23 October 2020; and information provided at the hearing 17 to 20 May 2021. Where there is any conflict between the application and the conditions, the conditions of consent shall prevail.
- (b) The Consent Holder may use an alternative design or methodology to that proposed in the above documents if:
- (i) the adverse effect of the activity will be the same or less than the previously specified design or methodology; and
  - (ii) the alternative design or methodology is approved in writing by the Southland Regional Council, who may require an independent review of the alternative by an appropriately qualified person before giving that approval. The cost of any such review shall be borne by the Consent Holder.

**Or**

The alternative methodology has been incorporated into the relevant management plan(s) and has been approved and certified following the process identified in Schedule 1 – General Conditions (13)-(16).

### ***Management Plans***

- GC3. The solid waste disposal facility and associated operations shall operate in accordance with an Environmental Management Plan (EMP) for the duration of this consent.
- GC4. The Environmental Management Plan shall incorporate or refer to the following management plans, each of which is described in later conditions of this consent:
- (a) Landfill Operations Management Plan;
  - (b) Landfill Gas Management Plan;
  - (c) Landfill Concept, Landscape, Rehabilitation and Aftercare Plan;
  - (d) Landfill Leachate Management Plan;
  - (e) Landfill Air Quality Management Plan;
  - (f) Quarry Management Plan
  - (g) Site Traffic Management Plan
  - (h) Site Stormwater Management Plan
  - (i) Site Archaeological/Koiwi or Taonga Accidental Discovery Plan.

In the event of an inconsistency between the management plans and a condition of this consent, these conditions shall prevail.

**Advice Notes**

1. *For completeness all sub-management plans are identified in Condition (4). The sub-management plans relevant to these consents include the Landfill Operations Management Plan, the Landfill Gas Management Plan, the Landfill Concept, Landscape, Rehabilitation and Aftercare Plan, the Landfill Leachate Management Plan, the Landfill Air Quality Plan, the Site Stormwater Management Plan and the Site Archaeological/Koiwi or Taonga Accidental Discovery Plan.*
2. *The objectives for each sub-management plan relevant to this consent are identified in consent General Conditions (21)-(28). There are also other objectives within these sub-management plans not relevant to these consents that are managed by the District Authority.*

**Appointment of Management Plan Reviewer(s)**

GC5. Prior to the exercise of this resource consent the Consent Holder shall nominate an independent, suitably qualified and experienced person(s) to review the management plans required by this consent, for approval by the Southland Regional Council. The consent holder shall provide information to the Southland Regional Council to demonstrate that the proposed reviewer(s) is independent, suitably qualified and experienced.

**Advice Note:** *If the Southland Regional Council does not approve the person(s) proposed by the Consent Holder, reasons will be provided in writing to indicate why the person(s) is not considered to be suitable.*

GC6. Acceptance of the plans shall not proceed until the Southland Regional Council confirms in writing that the Independent Management Plan Reviewer(s) meets these requirements.

GC7. The Independent Management Plan Reviewer(s) may be changed at any stage during operations, however, the new reviewer(s) must be confirmed as being appropriate by the Southland Regional Council in accordance with General Condition (5).

**Acceptance and Certification Process**

GC8. Prior to the exercise of this consent all management plans are to be submitted to the Independent Management Plan Reviewer(s) for acceptance.

GC9. Once a management plan is submitted to the Independent Management Plan Reviewer(s) they may:

- (i) accept the contents of the management plan; or
- (ii) make recommendations to the Consent Holder on the suitability of the contents of the management plan(s) in addressing the relevant conditions of consent. The Consent Holder shall make every reasonable effort to address the recommendations to the satisfaction of the Independent Management Plan Reviewer(s);
- (iii) in the case of substantial disagreement between the Consent Holder and the Independent Management Plan Reviewer(s) in addressing recommendations the Southland Regional Council as certifier of the management plans shall make the final determination on an

outstanding matter. Any costs incurred in determining this outcome shall be borne by the Consent Holder.

GC10. Once the Environmental Management Plan and sub management plans have been reviewed by the Independent Management Plan Reviewer(s), in accordance with General Condition (9) the plan shall be provided to the Southland Regional Council for consideration and certification, if considered appropriate.

**Advice Note:** *The acceptance process has been assigned to the Independent Management Plan Reviewer(s). The plan is then submitted to Southland Regional Council for final certification. The Southland Regional Council remains the authority for making a final decision on the certification of the document. The role of the Independent Management Plan Reviewer(s) is to provide technical guidance, recommendations, and their acceptance of these documents, where otherwise the Southland Regional Council may not have the internal expertise to carry out this function.*

GC11. (a) Southland Regional Council shall be requested, no less than 20 working days of the receipt of the management plan, to confirm to the Consent Holder that the plan is either certified or declined. If no response is received, certification is deemed to have been given as set out in General Condition (16).

(b) Should Southland Regional Council decline to certify the management plan, the Consent Holder shall resubmit a revised amendment to the management plan(s) following the procedures set out in General Conditions (8)-(10).

GC12. (a) This resource consent and a copy of the Southland Regional Council certified versions of all the management plans required by this consent shall be kept on site at all times, and the Consent Holder shall ensure all personnel are made aware of each plan's contents.

(b) The Southland Regional Council may, in May of each year, instruct the Independent Management Plan Reviewer(s) to review any management plan to ensure that management practices result in compliance with the conditions of these consents. Costs relating to the above review shall be borne by the Consent Holder.

#### **Management Plan Amendment Process**

GC13. The Consent Holder may make amendments to the final management plans that may change how any adverse effect is managed at any time subject to the acceptance of the Independent Management Plan Reviewer(s) and certification of Southland Regional Council.

All material changes to a management plan must be appropriately addressed through the mechanisms provided by these consent conditions. Any adjustment that is not material to the performance of these conditions of consent may be made at any time with the approval of the Southland Regional Council (i.e. changes in personnel, minor drafting corrections).

**Advice Note:** *The independent peer review process remains separate to the management plan acceptance/certification process. Any standard approved through the independent peer review process may be incorporated into the relevant management plan(s) without going through the process specified in Schedule 1 – General Conditions (13)-(16) to stop unnecessary duplication of the acceptance and certification process.*

GC14. All amendments shall be consistent with the objectives and performance requirements of the management plan and these consent conditions.

- GC15. (a) In event of an amendment to a management plan under General Condition (13), the Consent Holder must submit the amendment to Southland Regional Council for certification a minimum of 20 working days before the commencement of the relevant works. Certification shall confirm that the amendment is in accordance with General Condition (2) and meets the objectives and performance requirements of the management plan.
- (b) Southland Regional Council shall be requested, no later than 20 working days of the receipt of the amendment, to confirm to the Consent Holder that the amendment is either certified or declined. If no response is received, approval is deemed to have been given as set out in General Condition (16).
- (c) Should Southland Regional Council decline to certify the amendment or request the incorporation of changes to the amendment the Consent Holder may then resubmit a revised amendment to the management plan(s) following the procedures set out in General Condition (15)(a)-(b).

GC16. If no confirmation of the Plan's suitability is received from Southland Regional Council within 20 working days of submission of any plan or other information provided for certification, the submitted information shall be deemed to have been approved.

***Independent Peer Review Process***

GC17. Within one month of giving effect to this resource consent the Consent Holder shall nominate independent peer reviewer(s), suitably qualified and experienced person(s) to review the matters specified in General Condition (20), for approval by the Southland Regional Council. The Consent Holder shall provide information to demonstrate that the proposed reviewer(s) is independent, suitably qualified, and experienced.

***Advice Note:*** *If the Southland Regional Council does not approve the person(s) proposed by the Consent Holder, reasons will be provided in writing to indicate why the person(s) is not considered to be suitable.*

GC18. The Independent Peer Review process shall not proceed until the Southland Regional Council confirms in writing that the Independent Peer Reviewer(s) meets these requirements.

GC19. The Independent Peer Reviewer(s) may be changed at any stage during operations, however, the new Independent Peer Reviewer(s) must be confirmed as being appropriate by the Southland Regional Council in accordance with General Condition (17).

GC20. (i) The Consent Holder shall engage, at its own cost in accordance with General Conditions (17)-(19), an Independent Peer Reviewer(s), to review the design, construction, operation, maintenance and monitoring of the landfill and to assess whether or not the work is undertaken by appropriately qualified personnel in accordance with good practice.

- (ii) The Independent Peer Reviewer shall report to the Southland Regional Council by 1 May each year on the following matters:
- site preparation, including hydrogeological and geotechnical issues;
  - liner, leachate collection and stormwater system detailed design (including calculations), construction and quality control and use of on-site materials;
  - landfill operations management;
  - water control, including groundwater, stormwater, and leachate management;
  - waste acceptance;
  - cover material used;
  - landfill gas management;
  - monitoring, modelling and records;
  - site rehabilitation.

Preparation of each annual report shall include at least one site inspection.

- (iii) The Consent Holder shall provide information to the Independent Peer Reviewer three months prior to the construction of the following aspects of an area:
- base liner construction of an area;
  - construction of gas well installation for an area;
  - stormwater infrastructure for an area; and
  - permanent capping of an area.

The Independent Peer Reviewer shall provide a report on these matters to the Southland Regional Council at least one month prior to the identified construction activities.

***Advice Note:*** *The construction of the above aspects of an area is an iterative process. There may be significant time lags between each aspect of an area and there is no expectation that these should be bundled together.*

- (iv) The Consent Holder shall provide to the Independent Peer Reviewer as-built construction of the base liner prior to the disposal of refuse on an area. The Independent Peer Reviewer shall report on as-built construction of the base liner prior to the disposal of refuse on an area.
- (v) In addition, the Independent Peer Reviewer may report, in writing, to the Southland Regional Council on any matter that he/she considers should be brought to the attention of the Council in respect of the landfill and its operation.
- (vi) Where the Independent Peer Reviewer does not have the expertise in any of the areas required to report on, as detailed above, he/she may, with the agreement of the Consent Holder and the Southland Regional Council, engage the services of an appropriate expert to report on the relevant issue. The report shall form part of the review provided by the Independent Peer Reviewer, as required by this condition.
- (vii) A Terms of Reference, to guide and direct the Independent Peer Reviewer, shall be established, in consultation with the Southland Regional Council.

- GC21. (i) Following independent peer review (as per General Condition (20) of this Schedule), all peer review reports shall be provided to the Southland Regional Council for certification in accordance with the Terms of Reference outlined in General Condition (20)(vii).
- (ii) Southland Regional Council shall be requested, no less than 20 working days of the receipt of an Independent Peer Review report, to confirm to the Consent Holder that the report is either certified or declined.
- (iii) If no confirmation of the report's suitability is received from Southland Regional Council within 20 working days of submission of any report or other information provided for certification, the submitted information shall be deemed to have been approved.

**Advice Note:** *The independent peer review process remains separate to the management plan acceptance/certification process. Any reports certified by the Southland Regional Council through General Conditions (20)-(21) may be incorporated into the relevant management plan(s) without going through the process specified in General Conditions (13)-(16) to stop unnecessary duplication of the certification process.*

GC22. The overall purpose of the Environmental Management Plan (EMP) is to provide details of the practices and procedures to operate the landfill in compliance with the conditions of consent. The EMP shall comply with the relevant consent conditions and achieve the following objectives:

- (i) to operate in full compliance with the resource consent requirements and demonstrate this through reporting procedures to Consent Authorities;
- (ii) to liaise with neighbours and the local community, including iwi representatives, regarding landfill operations that could affect these parties;
- (iii) to provide a safe working environment for people on the site;
- (iv) to maintain an independent review process for the design, construction, operation, and aftercare of the landfill to confirm the work is undertaken by appropriately qualified personnel in accordance with good practice;
- (v) to identify operational responsibilities, the management structure and staffing;
- (vi) to facilitate the effective training of staff;
- (vii) to facilitate accurate record keeping;
- (viii) to maintain community involvement including details of complaints procedures;
- (ix) to appropriately manage site access, fencing and security;
- (x) to manage site infrastructure and site amenities.

#### **Landfill Operations Management Plan**

GC23. The Consent Holder shall prepare and maintain a Landfill Operations Management Plan (LOMP). The LOMP shall describe the operations of the landfill, including demonstrating how compliance with the relevant conditions of this consent will be achieved. The plan shall also achieve the following objectives:

- (i) to utilise an effective cover system to maintain quality site rehabilitation, while minimising long term leachate generation;
- (ii) to limit face access, thus enabling the size of the active area to be minimised;
- (iii) to minimise stockpiling, both within and outside the footprint;
- (iv) to outline Waste Acceptance Criteria and Procedures:
- to protect the receiving environment;
  - to protect the health and safety of people;



- to maintain that all waste received is compatible with the land filling operation;
- to maintain that all waste landfilled complies with 'Waste Acceptance Criteria' outlined in the relevant consent conditions;
- (v) to outline crisis response and emergency waste acceptance procedures:
  - to manage the identification of all special waste;
  - to pre-arrange the disposal of special waste;
  - to have in place measures and appropriate provisions for disposal of each special waste load are in place before the waste arrives at the landfill.
- (vi) the placing of refuse and daily cover:
  - to achieve a minimum in-situ refuse density of 0.8;
  - to maintain a working face that is as small as possible;
  - to cover all refuse daily;
  - to manage special waste planning;
  - to record the location of special waste by survey;
- (vii) the effective capping of the landfill:
  - to minimise ingress of rainwater into the landfill;
  - to minimise erosion and cracking of the cap through design, planting, and maintenance.

#### ***Landfill Gas Management Plan***

GC24. The Consent Holder shall prepare and maintain a Landfill Gas Management Plan (LGMP). The LGMP shall describe gas management for the landfill, including demonstrating how compliance with the relevant conditions of this consent will be achieved. The plan shall also achieve the following objectives:

- (i) to provide active LFG extraction throughout the active and post-closure phases;
- (ii) to manage the maintenance of methane concentrations at the nearest site boundary not owned by the Consent Holder;
- (iii) to provide for the treatment of recovered landfill gas by flaring in accordance with the NESAQ;
- (iv) to manage surface emission concentrations above the area of the landfill surface for all future cells that contain permanent capping and temporary capping are maintained at less than 5000 ppm methane;
- (v) to manage landfill gas so that oxygen by volume shall not exceed 5% in all operating extraction wells;

#### *Maintenance:*

- (vi) to provide for maintenance of the landfill gas collection system.

#### ***Landfill Concept, Landscape, Rehabilitation and Aftercare Plan***

GC25. The Consent Holder shall prepare and maintain a Landfill Concept, Landscape, Rehabilitation and Aftercare Plan (LCLRAP). The LCLRAP shall describe the landscaping, rehabilitation, and aftercare of the landfill, including demonstrating how compliance with the relevant conditions of this consent will be achieved. The plan shall also achieve the following objectives:

#### *Aftercare:*

- (i) aftercare operation and maintenance of leachate management systems;
- (ii) aftercare operation and maintenance of landfill gas management systems;

- (iii) ongoing monitoring including groundwater, surface water, landfill gas and site capping;
- (iv) Management of stormwater;
- (v) capping and revegetation;
- (vi) post settlement final contours;
- (vii) responsibilities for aftercare;
- (viii) land ownership and liability for contamination.

***Landfill Leachate Management Plan***

GC26. The Consent Holder shall prepare and maintain a Landfill Leachate Management Plan (LLMP). The LLMP shall describe the management of leachate for the landfill, including demonstrating how compliance with the relevant conditions of this consent will be achieved. The plan shall also achieve the following objectives:

- (i) to provide a robust, effective leachate drainage system with ready access for cleaning and rehabilitation;
- (ii) to control stormwater and moisture ingress into the landfill such that the site is able to be operated as to provide effective waste stabilisation, while avoiding excessive leachate generation;
- (iii) to facilitate gravity drainage of leachate from the landfill;
- (iv) to minimise liner penetrations;
- (v) to manage the removal of leachate from site for treatment to be undertaken safely in accordance with the Code of Practice for Hazardous and Liquid Waste;
- (vi) to provide continued compliance with the requirements of any Trade Waste Permit(s);

*Maintenance:*

- (vii) to provide for the maintenance of the leachate collection system;
- (viii) to provide for the maintenance of the leachate storage tank.

***Landfill Air Quality Management Plan***

GC27. The Consent Holder shall prepare and maintain a Landfill Air Quality Management Plan (LAQMP). The LAQMP shall describe the air quality management for the landfill, including demonstrating how compliance with the relevant conditions of this consent will be achieved. The plan shall also achieve the following objectives:

- (i) to control odours so that there shall be no objectionable and offensive effect of odours beyond the boundary of the land owned, or covenanted, by the Consent Holder;
- (ii) to manage the disposal of odorous loads - to take place when effective mitigation measures are in place;
- (iii) to manage effective daily cover of at least 150 mm of soil or equivalent alternative material;
- (iv) to keep the working face as small as practicable;
- (v) to limit excavation into old areas of refuse as far as practicable;
- (vi) to minimise water ingress to the working face;

*Dust:*

- (vii) to control dust so that there shall be no objectionable and offensive effect of dust beyond the boundary of the land owned or covenanted by the Consent Holder;
- (viii) to minimise the extent of unvegetated areas
- (ix) to enforce vehicle speed limits on site;

- (x) to keep unsealed road surfaces and working areas moist where potential for dust emissions beyond the boundary of the land owned or covenanted by the Consent Holder exists;

*Maintenance and Data Management:*

- (xi) to provide for maintenance and calibration all monitoring equipment;
- (xii) to detail data management procedures.

***Site Stormwater Management Plan***

GC28. The Consent Holder shall prepare and maintain a Site Stormwater Management Plan (SSMP). The SSMP shall describe the stormwater management for the site, including demonstrating how compliance with the relevant conditions of this consent will be achieved. The plan shall also achieve the following objectives:

- (i) to enable comprehensive stormwater control, with all catchment runoff routed via a sedimentation system;
- (ii) to divert as much stormwater as possible away from the active face of the landfill so that operational leachate volumes are minimised;
- (iii) to provide effective drainage of the final surface of the landfill so that scour of the cap is minimised and long-term seepage into the landfill is minimised;
- (iv) to keep all stormwater runoff from landfill activities within the AB Lime catchment, to maximise runoff available for other purposes, and minimise environmental impacts on the receiving environment;

*Erosion and Sediment:*

- (v) to enable comprehensive sediment control, with a majority of catchment runoff routed via a sedimentation system;
- (vi) to control silt runoff from the site;
- (vii) to detain flows from runoff so that deposition of transported sediment can occur through settlement;
- (viii) to maintain the site stormwater capture, conveyance, detention, and treatment devices so that they perform as designed.

***Site Archaeological/Koiwi or Taonga Accidental Discovery Plan***

GC29. The Consent Holder shall prepare and maintain a Site Archaeological/Koiwi or Taonga Accidental Discovery Plan (SAKTDP). The SAKTDP shall describe the accidental discovery protocols for the site, including demonstrating how compliance with the relevant conditions of this consent will be achieved. The plan shall also achieve the following objectives:

- (i) to ensure familiarity with accidental discovery protocols;
- (ii) protocols are followed in the event of an accidental discovery.

***Monitoring of Management Plans***

GC30. The Environmental Management Plan and sub-management plans (where applicable) shall include monitoring with respect to surface water, groundwater, leachate, landfill gas, odour and nuisance. Each monitoring element shall include:

- (i) monitoring locations;

- (ii) monitoring parameters;
- (iii) monitoring frequency;
- (iv) detection limits;
- (v) reporting; and
- (vi) trigger levels (for each monitoring location) for implementing contingency/remedial actions.

**Operational Conditions**

GC31. A geological map of the base grade of the landfill shall be prepared and upgraded in the Landfill Operations Management Plan from time to time as the base grade is exposed. The geological mapping shall include detailed logging of the location, extent and nature of fractures, fracture zones, Karst features and other defects.

GC32. All investigations, design, supervision of construction, operation, monitoring and after-care shall be undertaken by suitably qualified personnel experienced in such works, or works of a similar nature, and to the satisfaction of the Southland Regional Council.

GC33. The Consent Holder shall submit a revised Landfill Concept, Landscape, Rehabilitation and Aftercare Plan to the Southland Regional Council at least twenty-four months prior to planned landfill operations ceasing on this site. The revised plan shall be prepared after consultation with the owners of adjacent properties and the Southland District Council and Te Rūnanga o Awarua, Waihōpai Rūnaka and Hokonui Rūnanga.

GC34. The Consent Holder shall retain an appropriately experienced person to supervise the operation of the landfill. That person shall compile an annual report on the operation of the landfill, including:

- the status of landfilling operations on the site and work completed during the preceding year;
- the results of environmental monitoring;
- any difficulties which have arisen in the preceding year and measures taken to address those difficulties; and
- activities proposed for the next year of the landfill operation.

This report shall be forwarded to the Southland Regional Council by 1 May, unless otherwise agreed in writing with the Southland Regional Council.

GC35. In the event that any human remains, Kōiwi, or archaeological items are discovered, the works in that area of the site shall cease immediately and the Police, Tangata Whenua (Te Rūnanga o Awarua and Waihōpai Rūnaka and Hokonui Rūnanga), and/or Heritage New Zealand Pouhere Taonga, and the Southland Regional Council, shall be notified as soon as practicable. Works may recommence with the written approval of the Southland Regional Council. Such approval shall be given after the Southland Regional Council has considered:

- (i) Tangata Whenua interests and values;
- (ii) the Consent Holder's interests;
- (iii) any archaeological or scientific evidence; and
- (iv) any requirements of the Police.

GC36. All water quality sample analyses required shall be undertaken using standard methods as detailed in the "Standard Methods for the Examination of Water and Waste Water, 1998" 20<sup>th</sup> edition by A.P.H.A. and A.W.W.A. and W.E.F. or by some other method approved in advance in writing by the Southland Regional Council.

GC37. Prior to the commencement of any solid waste disposal activities commencing on the site, the Consent Holder shall be required to enter into a bond, as described in Sections 108 and 109 of the Resource Management Act 1991 with surety of \$945,000.00, plus GST. This bond shall be held jointly by the Southland District Council and Southland Regional Council.

The Southland Regional Council may call on a proportion of this bond sufficient to address the following matters:

- secure compliance with all the conditions of this consent, and to enable any adverse effects on the environment resulting from the Consent Holder's activities, to be avoided, remedied, or mitigated;
- secure the ongoing monitoring required by the various resource consents associated with the landfill to ensure adverse effects are avoided, remedied, or mitigated; and
- secure the completion of landscaping and planting works required by the conditions of this resource consent and their ongoing maintenance;
- secure the completion of rehabilitation and closure of the site in accordance with the Landfill Concept, Landscape, Rehabilitation and Aftercare Plan required by General Condition (33).

All costs relating to the formulation and registration against the relevant certificates of title, of this bond shall be borne by the Consent Holder.

This bond shall be released upon the completion of rehabilitation and closure of the site to the satisfaction of the Southland District Council.

GC38. Twelve months prior to landfill operations ceasing the Consent Holder shall obtain two quotes for activities required pursuant to the Landfill Concept, Landscape, Rehabilitation and Aftercare Plan.

Six months prior to the landfill operations ceasing at the site, the Consent Holder shall be required to enter into a bond as described in Sections 108 and 109 of the Resource Management Act 1991 with a value equivalent to the higher of the two quotes obtained.

All costs relating to the formulation and registration against the relevant certificates of title, of this bond shall be borne by the Consent Holder.

This bond shall be released upon the completion of rehabilitation and closure of the site to the satisfaction of the Southland District Council.

GC39. Pursuant to Section 128 of the Resource Management Act 1991, the Southland Regional Council may, at any time, review the conditions of these consents for the purposes of:

- (i) ensuring the adequacy of the conditions in terms of protecting the environment;
- (ii) ensuring that in the event that the consents are transferred, the new Consent Holder can comply with the intent and specific requirements of the conditions;

- (iii) reviewing the bond requirements of General Condition 37 to ensure that it is adequate to address the matters it secures;
- (iv) ensuring consistency with any relevant new government regulation, policy, standard, or guideline in respect of landfill design, operation, monitoring, aftercare, or discharges that has come into effect.

GC40. The Consent Holder may apply to change or cancel any condition of these consents.

GC41. The Consent Holder shall pay to the Southland Regional Council any administrative charge fixed in accordance with section 36 of the Resource Management Act 1991, or any charge prescribed in accordance with regulations made under section 360 of the Resource Management Act 1991.

## Attachment 1: Schedule 2

Schedule 2 is relevant to Condition 21 of the Solid Waste to Land Discharge Permit

### Class 1 Landfill Waste Acceptance Criteria

For Class 1 landfills, leachability testing should be completed to provide assurance that waste materials meet the following recommended waste acceptance criteria. The waste acceptance criteria leachability limits represent maximum values which should not be exceeded and should be viewed as a minimum treatment specification for a landfill.

If the following limits are exceeded by a leachate extract of the waste with respect to any of the listed constituents, then the material is not suitable for disposal to the facility.

**Table D-1 Class 1 Waste Acceptance Criteria for Inorganic and Organic Elements<sup>3</sup>**

Contaminant of concern	Unit	Maximum allowable TCLP concentration
Arsenic	mg/L	5
Barium	mg/L	100
Benzene	mg/L	0.5
Cadmium	mg/L	1
Carbon Tetrachloride	mg/L	0.5
Chlordane	mg/L	0.03
Chlorobenzene	mg/L	100
Chloroform	mg/L	6
Chromium	mg/L	5
Endrin	mg/L	0.02
m-Cresol	mg/L	200
o-Cresol	mg/L	200
p-Cresol	mg/L	200
Total cresol	mg/L	200
1,4-Dichlorobenzene	mg/L	7.5
1,2-Dichloroethane	mg/L	0.5
1,1-Dichloroethylene	mg/L	0.7
2,4-Dinitrotoluene	mg/L	0.13
2,4-Dichlorophenoxyacetic acid	mg/L	10
Heptachlor	mg/L	0.008
Hexachloro – 1,3-butadiene	mg/L	0.5
Hexachlorobenzene	mg/L	0.13
Hexachloroethane	mg/L	3
Lead	mg/L	5
Lindane	mg/L	0.4

<sup>3</sup> US EPA Chapter 40 CFR

Contaminant of concern	Unit	Maximum allowable TCLP concentration
Mercury	mg/L	0.2
Methoxychlor	mg/L	10
Methyl ethyl ketone	mg/L	200
Nitrobenzene	mg/L	2
Pentachlorophenol	mg/L	100
Pyridine	mg/L	5
Selenium	mg/L	1
Silver	mg/L	5
Tetrachloroethylene	mg/L	0.7
Toxaphene	mg/L	0.5
Trichloroethylene	mg/L	0.7
2,4,5-Trichlorophenol	mg/L	400
2,4,5-Trichlorophenoxypropionic acid 1	mg/L	1
2,4,6-Trichlorophenol	mg/L	2
Vinyl chloride	mg/L	0.2
Sulfides	ppm	50
Cyanides	ppm	50
Total halogenated compounds	ppm	1,000
Total synthetic non-halogenated compounds	ppm	10,000
Polychlorinated biphenyls	ppm	50

**Table D-2 Class 1 Waste Acceptance Criteria for Inorganic and Organic Elements<sup>4</sup>**

Contaminant of concern	Unit	Maximum allowable TCLP concentration
Aluminium	ppm	40
Aniline	ppm	0.2
Antimony	ppm	0.6
Beryllium	ppm	10
Boron	ppm	20
Bromodichloromethane	ppm	1
Bromoform	ppm	10
Carbon disulphide	ppm	3
2 Chlorophenol	ppm	0.05
Copper	ppm	5.0
1,2 Dibromo-3-chloropropane	ppm	0.2
Dibromochloromethane	ppm	10

<sup>4</sup> Module 2: Hazardous Waste Guidelines MfE 2004



Contaminant of concern	Unit	Maximum allowable TCLP concentration
1,2 Dichlorobenzene	ppm	0.2
1,2 Dichloroethene	ppm	10
Dichloromethane	ppm	2
2,4 Dichlorophenol	ppm	0.05
1,2 Dichloropropane	ppm	1
1,3 Dichloropropene	ppm	2
Diethylphthalate	ppm	100
Dimethylphthalate	ppm	400
Ethyl benzene	ppm	50
Fluoride	ppm	200
Lithium	ppm	20
Molybdenum	ppm	10
Naphthalene	ppm	10
Nickel	ppm	10
Phenol	ppm	40
1,1,2,2 Tetrachloroethane	ppm	50
Tin	ppm	1000
Toluene	ppm	100
Tributyltin oxide (TBTO)	ppm	3
1,1,1 Trichloroethane	ppm	200
1,1,2 Trichloroethane	ppm	500
Vanadium	ppm	2.0
Xylene (m,o,p)	ppm	100
Zinc	ppm	10.0



Drawing number IZ000400-1000-NG-DRG-1008

