GREEN ISLAND LANDFILL CLOSURE – DRAFT ORC CONDITIONS OF CONSENT

Interpretation notes

- The Applicant's proposed suite of conditions contained sections of strikethrough text in red, blue, and green. These have been deleted as it is accepted that they are no longer required.
- The Applicant's proposed suite of conditions contained sections of text in red – this has been changed to black text prior to making new modifications.
- Please note that if consent is granted this will not be the final format for consent conditions. A standalone consent document will be issued for each resource consent, in the standard ORC format.

The Consents

Discharge Permit RM23.185.01 to discharge waste and hazardous waste, and leachate onto land, in a manner that may result in contaminants entering groundwater for the purpose of the operation, closure, and aftercare of the Green Island Landfill.

Water Permit RM23.185.02 to take and use groundwater and connected surface water from the Kaikorai Stream through a leachate collection trench, and to take and use groundwater and leachate from groundwater bores, landfill gas wells, and a leachate collection trench, for the purpose of the operation and closure of the Green Island Landfill.

Water Permit RM23.185.03 to divert surface water and stormwater from working and non-working areas of the landfill, including from a defence against water for the purpose of the operation, closure, and aftercare of the Green Island Landfill.

Water Permit RM23.185.04 to permanently divert surface water in the Kaikorai Stream and Brighton Road Stream for the purpose of the operation, closure, and aftercare of the Green Island Landfill.

Discharge permit RM23.185.05 to discharge surface water and stormwater to the Kaikorai Stream for the purpose of the operation, closure, and aftercare of the Green Island Landfill.

Discharge permit RM23.185.06 to discharge contaminants (landfill gas, combustion emissions from landfill gas flares and engines, dust and odour) to air for the purpose of the operation, closure, and aftercare of the Green Island Landfill.

Land use consent RM23.185.07 to place a defence against water between the landfill and Kaikorai Stream for the purpose of diverting floodwaters for the operation, closure, and aftercare of the Green Island Landfill.

Land use consent RM23.185.08 to disturb land at a contaminated site for undertaking capping works and for the installation and maintenance of landfill infrastructure for the purpose of the operation, closure, and aftercare of the Green Island Landfill.

Name: Dunedin City Council.
Address: ~~20 Taylor Street, Green Island.~~ Green Island Landfill, located at 9, 114, 140, and 170 Brighton Road, Green Island; Green Island Wastewater Treatment Plant, located at 9 and 174 Brighton Road, Green Island.
Location of activity: Green Island Landfill and Green Island Wastewater Treatment Plant.
Legal description of land: [insert details].
Map Reference approximate site midpoint (NZTM2000): E1399304 N4912786~~[insert details]~~.

Commented [SM1]: Will be attached as an Appendix to each consent document. Included here as Appendix X.

A. Schedule 1 – General Conditions Relevant to All Consents

1. The operation, closure and aftercare of the landfill (including all associated discharges of contaminants to land, water and air) must be undertaken in general accordance with the following documents, except where modified by other conditions of this consent. In the event of differences or conflict between the contents of the documents and the conditions, the conditions shall prevail:
   a) Green Island Landfill Closure, Assessment of Environmental Effects, Boffa Miskell, March 2023 (Updated October 2024), including attached Appendices 1 – 19.
   b) Waste Futures – Green Island Landfill Closure, Design Report, GHD, September 2023 and associated design drawings listed on drawing sheet 12547621506381-G001.
   c) Green Island Landfill, Development and Management Plan, Stantec, September 2023, except as updated in accordance with General Conditions 12 – 15.

2. An alternative design or methodology to that proposed in the consent documents specified in general condition 1 may be used if:
   a) The adverse effects of the activity are demonstrated by the Consent Holder to be the same or less than the consented design or methodology; and
   b) The alternative design or methodology has been provided under General Condition 23 to the Otago Regional Council and certification is obtained from the Otago Regional Council; or
   c) The alternative design or methodology has been incorporated into the Landfill Development Management Plan required under General Condition 12 or Landfill Closure Management Plan under General Condition 16 and provided to the Otago Regional Council and certification is obtained from the Otago Regional Council.

3. These resource consents and a copy of the Otago Regional Council certified version of any management plan and design details required by these consents must be kept on site at all times, and the C~~c~~onsent H~~h~~older must ensure all relevant personnel are made aware of each document's contents.

Certification Process

4. The Consent Holder must follow the process set out below for any plans, documents, designs or specifications (hereafter referred to as 'documents') requiring the certification of an officer of the Otago Regional Council:
   a) Documents requiring certification must be submitted to the relevant officer in electronic and hard copy form for certification. The certification process must be

confined to confirming that the documents adequately give effect to the relevant condition(s).

b) Subject to (c) and (e) below, works to which the documents relate must not commence until the Consent Holder has received written certification from the relevant officer.

c) If the Consent Holder has not received a response from the relevant officer within 20~~10~~ working days of the date of submission under (a) above, or 40 working days in the case for the design of the extended leachate trench required by General Condition 23, the documents must be deemed to be certified.

d) If the relevant officer's response is that that they are not able to certify the documents they must provide the Consent Holder with reasons and recommendations for changes to the documents in writing. The Consent Holder must consider any reasons and recommendations of the relevant officer and resubmit amended documents for certification.

e) If the Consent Holder has not received a response from the relevant officer within 10~~5~~ working days of the date of resubmission under (d) above, the documents must be deemed to be certified.

f) If the relevant officer's response is that that they are still not able to certify the resubmitted documents then the Consent Holder must nevertheless implement the resubmitted documents with a notation that certification of them has not occurred. ~~This condition does not apply to the detailed design of the extended section of leachate trench required by Condition 7 of Discharge Permit RM23.185.01.~~

g) Certified documents may be amended at the request of the Consent Holder at any time subject to recertification undertaken in accordance with Condition 4(a) to (f) with references in those clauses to certification to be read as recertification.

Community Liaison Group (CLG)

5. The ~~c~~Consent H~~h~~older must, within 3 months of the issue of these resource consents, invite the community to establish and maintain a Community Liaison Group (CLG) for the purpose of facilitating ongoing engagement between the Consent Holder and community on the operation and closure of the landfill in accordance with General Conditions 6 to 11.

6. The Consent Holder must invite all residents who own property within 1 km of the landfill site to the first meeting of the CLG. Persons who live more than 1 km from the landfill must not be excluded from the meeting should they wish to attend. At the first meeting of the CLG, those persons in attendance must be invited to nominate up to 5 persons to attend future meetings, as representatives of the community.

7. In addition to the persons nominated under General Condition 6, the CLG must also invite the following parties to participate as members of the CLG:
   a) A member of ~~the~~ a local Dunedin City Council local community board (who shall be invited to act as Chairperson of the CLG);
   b) Two representatives of the Consent Holder or landfill operator.

8. The ~~c~~Consent H~~h~~older must offer to provide (at the Consent Holder's expense) members of the CLG the opportunity of a quarterly site inspection and a quarterly meeting each year until landfill closure, and both annually thereafter. The C~~c~~onsent H~~h~~older must also offer to provide

to members of the CLG any information to which the Otago Regional Council are entitled by virtue of the conditions of the resource consents for the landfill. The time, date, and venue of any meeting or site inspection must be notified to members of the CLG at least 15 working days prior to the meeting or site inspection.

9. The C~~c~~onsent H~~h~~older must invite a representative from the Otago Regional Council as consent authority to attend CLG site inspections and meetings in an observer capacity.

10. The purpose of the quarterly meetings of the CLG will be for the C~~c~~onsent H~~h~~older to:
    a) Explain progress on the landfill operation and closure;
    b) Present and discuss any monitoring results and/or reporting as required by the conditions of the resource consents; and
    c) Hear any community issues or concerns with the landfill construction and operation and discuss and consider means of addressing those issues or concerns.

    Minutes of any quarterly meeting must be taken by the C~~c~~onsent H~~h~~older and distributed to the members of the CLG.

11. In the event that a member of the CLG nominated under General Condition 6 no longer wishes to be part of the CLG, the ~~c~~Consent H~~h~~older must invite a replacement member in accordance with General Condition 6.

    Advice Note: In the event that it is not possible to establish a CLG or convene meetings through lack of interest or participation from the invitees, then such failure to do so will not be deemed a breach of these conditions.

Landfill Development Management Plan

12. The operation of the landfill and waste diversion and transfer facilities must be undertaken in accordance with a Landfill Development Management Plan (LDMP), with the overall objective of setting out details of the practices and procedures to be adopted to achieve compliance with the conditions of resource consent.

13. The Landfill Development Management Plan must be prepared by a suitably qualified and experienced person and must address how the following matters will meet any requirements, limits, or restrictions set out by the conditions of these resource consents:
    a) The LDMP must, to the extent practicable, be in accordance with best industry practice.
    ~~a)~~b) The stages and order of landfill development, including matters to be completed prior to each stage.
    ~~b)~~c) Landfill gas, leachate, groundwater and stormwater management.
    ~~c)~~d) Erosion and sediment controls during construction and operation.
    ~~d)~~e) Types of waste to be accepted and those that are prohibited.
    ~~e)~~f) Waste acceptance control and monitoring the types of waste accepted.
    ~~f)~~g) Methods of placing and covering waste, including highly odorous and special waste.
    ~~g)~~h) Management of the active landfill area and waste diversion and transfer facilities.
    ~~h)~~i) Fire preparedness and response management.
    ~~i)~~j) Odour and dust management.

~~j)~~k) Noise management.
~~k)~~l) Litter management.
~~l)~~m) Plant and animal pest management, including bird control.
~~m)~~n) Monitoring procedures, including locations, parameters, and frequency.
~~n)~~o) Landfill inspections and maintenance.
~~o)~~p) Emergency management and contingency response procedures.
~~p)~~q) Complaints response procedures.
~~q)~~r) Record-keeping and reporting requirements.
~~r)~~s) Final landfill capping, post settlement height, shape and contours of the land.

14. The existing Landfill Development Management Plan must be updated in consultation with Te Rūnanga o Ōtākou to achieve the conditions of these resource consents and provided to the Otago Regional Council for certification in accordance with General Condition 4 within 6 months of the issue of these consents ~~to assess it has been prepared by appropriately qualified personnel in accordance with the conditions of consent and in accordance with good practice and certification in accordance with General Condition 4~~.

15. By 1 July each year the Consent Holder must, in consultation with Te Rūnanga o Ōtākou, complete a review of the Landfill Development Management Plan required by general condition 12 to ensure that the management practices contained within them remain adequate to ensure compliance with the conditions of these consents. If amendments are made to a management plan, the amended plan must be submitted to the Otago Regional Council for recertification in accordance with General Condition 4.

Landfill Closure Management Plan

16. The closure and aftercare of the landfill must be undertaken in accordance with a Landfill Closure Management Plan (LCMP).

17. The Landfill Closure Management Plan must be ~~developed~~ prepared by ~~the Consent Holder~~ a suitably qualified and experienced person and in consultation with Te Rūnanga o Ōtākou, with an overall objective of setting out details of the practices and procedures to be adopted to achieve compliance with the conditions of resource consent.

18. The Landfill Closure Management Plan must address how the following matters will meet any requirements, limits, or restrictions set out by the conditions of these resource consents:
a) The LDMP must, to the extent practicable, be in accordance with best industry practice.
~~a)~~b) Long term use of the landfill site including the incorporation of mana whenua values and pūrākau associated with the Kaikarae Estuary.
~~b)~~c) Post closure landfill gas, leachate, groundwater and stormwater management.
~~c)~~d) Post closure maintenance of the landfill cap ~~and landscape planting~~.
e) Post closure monitoring procedures, including locations, parameters, and frequency.
~~d)~~f) Any ongoing requirements of the ~~VRMP~~VMRP required by Condition 43 of RM23.185.01.
~~e)~~g) Landfill inspections and maintenance.
~~f)~~h) Emergency management and contingency response procedures.
~~g)~~i) Complaints response procedures.
~~h)~~j) Record-keeping and reporting requirements.

Commented [SM2]: Condition 4a already specifies that 'certification' means check that the document meets the requirements of the condition.

This change has been applied to all documents requiring certification throughout these consents.

19. The Landfill Closure Management Plan must be submitted to the Otago Regional Council at least 3 months prior to the final acceptance of waste at the landfill for certification in accordance with General Condition 4 ~~to assess that it has been prepared by appropriately qualified personnel in accordance with the conditions of consent and in accordance with good practice, and certification in accordance with General Condition 4~~.

20. Every three years following the final acceptance of waste at the landfill, the Consent Holder must, in consultation with Te Rūnanga o Ōtākou, complete a review of the Landfill Closure Management Plan required by G~~g~~eneral C~~c~~ondition 16 to ensure that the management practices contained within them remain adequate to ensure compliance with the conditions of these consents. If amendments are made to a management plan, the amended plan must be submitted to the Otago Regional Council for recertification in accordance with General Condition 4.

Management Plan Amendment

21. The Consent Holder may make amendments to the Landfill Development Management Plan or Landfill Closure Management Plan required by G~~g~~eneral C~~c~~onditions 12 and 16 at any time. Any amendments must be made in consultation with Te Rūnanga o Ōtākou and submitted to the Otago Regional Council for recertification in accordance with General Condition 4.

Design and Construction

22. All investigations, detailed design and supervision of construction of the landfill must be undertaken by suitably qualified personnel experienced in such works, or works of a similar nature.

23. Within 20 working days prior to commencing the construction of any:
    a) Landfill perimeter bund;
    b) Leachate collection system, including the extension to the leachate collection trench; and any flood resilience improvements;
    c) Permanent landfill gas treatment system;
    d) Stormwater treatment, and discharge system;
    e) Defence against water along the Kaikorai Stream; or
    f) Final capping.

    the Consent Holder must submit a design report with specifications and design drawings to the Otago Regional Council for ~~review to assess that they have been prepared by appropriately qualified personnel in accordance with the conditions of consent and in accordance with good practice, and~~ certification in accordance with General Condition 4.

24. The pipe contained within the extension to the leachate collection trench must be designed to be resilient to deformations under a ULS seismic event.

~~24.~~25. When completed, the works specified in ~~g~~General C~~c~~ondition 23 must be confirmed by a suitably experienced Chartered Professional Engineer (CPEng) that they have been completed in accordance with the design certified by the Otago Regional Council. A Construction Quality

Assurance (CQA) report must be prepared and submitted by the Consent Holder to the Otago Regional Council within 3 months following completion of the works specified in Ggeneral Cecondition 23.

Landfill Operation

~~25.~~26. The Consent Holder must appoint and retain an appropriately qualified and experienced person to supervise the operation of the landfill.

~~26.~~27. The active landfilling area must not exceed 900 m^2 at any time, except that it may be expanded to 1200 m^2:

a) During the times of the day where the demand, i.e. rate of truck arrivals, is 25% more than average.
b) During waste placement in areas with unusual constraints such as ~~sharing~~ shaping to form an extreme corner of the waste pile.
c) Where landfill gas escape from underneath the day's refuse, and odour from the day's refuse are unlikely.

~~27.~~28. The active landfilling area must not exceed 300 m^2 at any time when the daily fire danger rating for the landfill site is very high, extreme, or very extreme for forestry as reported by the New Zealand Fire Weather System.

Advice Note: The New Zealand Fire Weather System (FWS) is operated by the National Institute of Water and Atmospheric Research (NIWA) on behalf of Fire and Emergency New Zealand (FENZ) to monitoring fire danger.

~~28.~~29. The active landfilling area must be limited to no more than 30 m wide.

~~29.~~30. Except where required by Cecondition 31, all waste must be covered at the end of each working day with at least non- combustible compacted soil cover to a minimum depth of 150 millimetres.

~~30.~~31. All special waste, highly odorous waste, and medical waste must be covered no more than 30 minutes following its placement with at least non-combustible compacted soil cover to a minimum depth of 150 millimetres.

Advice Notes:
The discharge of highly odorous waste is restricted by ~~e~~Condition 32 of Discharge Waste and Leachate to Land Permit RM23 ~~[insert consent number]~~.185.01
Discharge to Air Permit RM23.185.06 ~~[insert consent number]~~ Cecondition 6 imposes additional requirements for the discharge of highly odorous wastes.

~~31.~~32. There must be no waste that remains uncovered overnight.

~~32.~~33. Daily cover must be removed before waste placement at the start of each day. As a minimum, windows must be cut through the previous layer of daily cover sufficient to allow the free flow of leachate from the new waste layer to the underlying layers.

~~33.~~34. All areas where further waste will not be placed for three months must be covered with non-combustible compacted intermediate soil cover to a minimum depth of 300 millimetres. Grass or vegetative cover must be established on the intermediate soil cover, except within 10 m of the active landfilling area.

35. Final capping of the landfill must be undertaken in a progressive manner. The Consent Holder must complete final capping of each landfilling stage 1-3 ~~within X months~~ as soon as practicable but no later than 2 years following final receipt of waste in that area. Final capping must be fully completed no later than two years following the final acceptance of waste at the landfill. The final cap profile in all areas must comply with General Condition 36. ~~A final capping layer must be constructed once filling of any area is fully completed and must be completed no later than 2 years following the final acceptance of waste at the landfill~~.

Commented [SM3]: Applicant to please propose a suitable timeframe for the capping of each stage.

~~34.~~36. The final ~~cover~~ capping layer must comprise the following minimum layers, from top to bottom ~~bottom to top~~;

a) 350 millimetres of sub-soil and topsoil that is grassed, except that grassing is not required within 10 m of the active landfilling area; and
b) 600 millimetres of low permeability clay with a permeability coefficient of not more than 1 x 10-7 metres per second; and
c) 200 millimetres soil cover (i.e. compacted intermediate cover soils); and
d) 300 millimetres of compacted intermediate cover soils.

~~200 millimetres soil cover; and~~
~~a) 300 millimetres of compacted intermediate cover soils; and~~
~~b) 600 millimetres of low permeability clay compacted cohesive soils with a permeability coefficient of not more than 1 x 10-7 metres per second; and~~
~~c) 350 millimetres of sub-soil and topsoil that is grassed, except that grassing is not required within 10 m of the active landfilling area.~~

~~35.~~37. The final cap must:

a) as far as practicable, have a gradient of 4% or greater, based on the final received waste tonnages; and
b) be graded ~~to achieve a minimum cap grade of 4% across the area of landfill that is shown as having a 2% grade in design drawing 12547621-C202 (GHD, 2023), and 5% in all other areas.~~ and incorporate drainage so as to prevent ponding of stormwater and erosion and cracking of the capping surface.

~~36.~~38. A walkover visual inspection of the landfill operational area must be undertaken at least monthly and immediately following storm events greater than 50% Annual Exceedance Probability (AEP), to check for:

a) Vegetation die off;
b) Cracking of the final cap surface;
c) Subsidence and erosion;
d) Landfill gas leaks and odour;
e) Leachate break out through the cap;

f) Waste protruding through the cap; and
g) Stormwater system overflows or damage.

Any defects must be remedied by the Consent Holder as soon as practicable. A report on the inspection and details of any remedial actions must be forwarded to the Otago Regional Council within one month of each inspection.

Monitoring

~~37.~~39. An automatic weather station that continuously and accurately records wind speed and direction, temperature, relative humidity, and rainfall must be operated, and maintained on the site. The weather station must be serviced and calibrated by a suitably qualified and experienced technician at least annually to ensure accurate monitoring. Data recorded by the weather station must be provided to the Otago Regional Council in electronic format upon request.

Groundwater and Surface Water Monitoring

40. The Consent holder must install a new monitoring well cluster of 3 wells at the location shown in Attachment A. The wells must be screened in different geological layers, comprising the Upper Kaikorai Estuary Formation (UKEM), Lower Kaikorai Estuary Formation (LKEM), and Abbotsford Mudstone.

41. The Consent Holder must:
   a) lodge an application to drill the new groundwater monitoring wells specified in General Condition 40 ~~and Attachment A of this schedule~~within 3 months of consent being granted~~, by 31 August 2025~~, if this is required to comply with the Resource Management (National Environmental Standards for Freshwater Management) 2020, or any other relevant standard or rule;
   b) construct the new wells within 3 months of any consent required under part (a) of this condition being granted, or 3 months of this resource consent being granted if no resource consent is required under part (a) of this condition; and ~~as soon as reasonably practicable following the granting of any consent obtained in accordance with part (a) of this condition; and~~
   c) commence groundwater monitoring from the new wells in the ~~quarterly~~next monitoring cycle required under condition 44 ~~immediately subsequent to~~ following the completion of well construction.

Advice note: This condition has been agreed by the Applicant.

~~38.~~42. The ~~existing~~ groundwater monitoring wells shown on ~~drawing Figure 2.10 of the Groundwater Technical Assessment, GHD 2024, attached as~~ Attachment A ~~to this schedule. [insert drawing number showing all monitoring locations]~~ must be maintained on site to enable collection of groundwater level and groundwater quality data.

Commented [SM4]: Willing to discuss this timeframe.

Commented [SM5]: Would prefer a definitive timeframe - DCC to propose, taking into account availability of a drilling rig

Commented [SM6]: Assuming that the applicant agrees to this condition, an advice note is recommended to recognise that this is an augier condition

Commented [SM7]: Applicant to confirm if there is a better version.

Also, Applicant to update the drawing to include the new monitoring wells. This must be attached as Appendix A. Alternatively, could list the relevant bore numbers directly in this condition.

~~39.~~43. All groundwater monitoring wells must be maintained to prevent the ingress of contaminants and to enable accurate monitoring. In the event of a well being destroyed or becoming unsuitable for sampling, the Consent Holder must replace it with a well in the same general location within 3 months of the well being destroyed or becoming unsuitable.

~~40.~~44. The Consent Holder must undertake the monitoring of groundwater and surface water level and quality monitoring outlined in Table 1 below:

Table 1 – Groundwater and Surface Water Monitoring

	Frequency of Monitoring	Measurement/Analyte	Locations as shown in Attachment A
A	3 hourly (using automatic water level pressure transducer)	▪ Kaikorai Stream levels	▪ Surface water GI3
~~B~~	Monthly	Groundwater levels	▪ Line 1 – 8 A / B / C / D wells, BH103, and new well cluster~~, new deep wells on Lines 1 and 3~~, ▪ Leachate collection system pumpstations and manholes
C	Quarterly (reduced to 6 monthly, two years following landfill closure)	~~▪ pH~~ ~~▪ Electrical Conductivity~~ ~~▪ Dissolved oxygen~~ ~~▪ Boron~~ ~~▪ Ammoniacal Nitrogen~~ ~~▪ Nitrate Nitrogen~~ ~~▪ Chloride~~ ▪ ~~PFAS and PFOA (first three years only)~~ ▪ pH (pH units) ▪ Electrical conductivity (mS/cm) ▪ Dissolved oxygen (mg/L) ▪ Boron* ▪ Ammoniacal nitrogen* ▪ Nitrate nitrogen ▪ Chloride ▪ PFOS (first three years) ▪ PFOA (first three years) ▪ Aluminium ▪ Arsenic* ▪ Cadmium* ▪ Chromium* ▪ Copper* ▪ Iron ▪ Lead* ▪ Manganese ▪ Nickel* ▪ Zinc*	▪ Line 1 – 8 C and D wells, and new well cluster ▪ BH103 ▪ Representative sample from the leachate trench at PS3 ▪ Surface water locations GI1, GI2, GI3, GI 5 and estuary at Brighton Road bridge within three hours of low tide ~~▪ Western sedimentation pond~~ ~~▪ South western pond~~ ~~▪ Eastern sedimentation pond~~ ~~▪ South eastern constructed wetland~~ ~~Eastern constructed wetland~~ ~~Northern leachate pond~~ ▪ ~~After closure, the northern sedimentation pond.~~

Commented [SM8]: Update with name or bore tag reference for these new wells

		~~Total suspended solids~~ ~~E. coli~~ ▪ ~~Enterococci~~	
	Quarterly (reduced to 6 monthly, two years following landfill closure)	▪ pH (pH units) ▪ Dissolved oxygen (mg/L) ▪ PFOS (first three years) ▪ PFOA (first three years) ▪ Copper* ▪ Zinc* ▪ Total suspended solids*	▪ The following locations where they are discharging freely to the downstream environment: - Western sedimentation pond - South western pond - Eastern sedimentation pond - South eastern constructed wetland - Eastern constructed wetland ▪ After closure, the northern sedimentation pond.
~~D~~	Annually	~~▪ Major Ions (Sodium, Potassium, Magnesium, Calcium, Bicarbonate, Sulphate and Chloride)~~ ~~▪ pH~~ ~~▪ Electrical Conductivity~~ ~~▪ Dissolved oxygen~~ ~~▪ Nutrients (Ammoniacal Nitrogen, Nitrate Nitrogen, Dissolved Reactive Phosphorous)~~ ~~▪ Metals (Aluminium Arsenic, Cadmium, Chromium, Iron, Lead, Manganese, Nickel, Zinc)~~ ~~▪ Boron~~ ~~▪ Volatile Organic Compounds (VOC)~~ ~~▪ Semi Volatile Organic Compounds (SVOC)~~ ~~▪ PFAS and PFOA~~ ~~▪ Cyanide~~ ~~▪ Chemical oxygen demand (COD)~~ ~~▪ Biological oxygen demand (BOD)~~ ▪ Sodium ▪ Potassium ▪ Calcium ▪ Bicarbonate ▪ Sulphate ▪ Dissolved reactive phosphorus* ▪ Volatile organic compounds (VOC)* ▪ Semi volatile organic compounds (SVOC)* ▪ PFOS ▪ PFOA ▪ Cyanide ▪ Chemical oxygen demand (COD) ▪ Biological oxygen demand (BOD)	▪ C and D wells, new cluster of wells, new deep wells on lines 1 and 3. ▪ BH103 ▪ Representative sample from the leachate trench at PS3 ▪ Representative sample of leachate from gas well in landfill ▪ Surface water locations GI1, GI2, GI3, GI 5 and estuary at Brighton Road bridge within three hours of low tide at low tide ▪ The following locations where they are discharging freely to the downstream environment: - Western sedimentation pond - South western pond - Eastern sedimentation pond - South eastern constructed wetland - Eastern constructed wetland ▪ After closure, the northern sedimentation pond.

~~41.~~45. All groundwater and surface water sampling required under General Condition 44 must meet the following requirements:

a) Sampling must be undertaken at the specified locations indicated in G~~g~~eneral C~~c~~ondition 44

b) Sampling must be undertaken, or overseen by, a suitably qualified professional and collected in accordance with the relevant National Environmental Monitoring Standard (NEMS):

i. National Environmental Monitoring Standards Water Quality Part 1 of 4: Sampling, Measuring, Processing and Archiving of Discrete Groundwater Quality Data;

ii. National Environmental Monitoring Standards Water Quality Part 2 of 4: Sampling, Measuring,

iii. Processing and Archiving of Discrete River Quality Data; and

c) All sample analysis must be performed by a laboratory that meets International Accreditation New Zealand ("IANZ") approved laboratory or otherwise as agreed in writing with the Otago Regional Council.

46. Water quality trigger levels must be developed for groundwater and surface water quality and included in the Landfill Development Management Plan required under General Condition 12 and Landfill Closure Management Plan required under General Condition 16 for the indicated parameters (as indicated by an askerisk) set out in General Condition 44 to detect whether groundwater quality is being adversely affected by leachate, and whether surface water quality is being adversely affected by leachate or suspended sediment, when measured at the locations specified in General Condition 44.

47. The trigger levels for groundwater and surface water quality required by General Condition 46 must be calculated as the mean plus three standard deviations for parameter concentrations measured during the previous 5 years of monitoring (mean plus and minus three standard deviations for pH). Trigger levels must be reviewed every 5 years. The lessor of the then existing trigger levels or those calculated from the preceding 5 years monitoring data must thereafter be adopted.

48. The monitoring of groundwater and surface water quality required by General Condition 44 must be assessed against the trigger levels established under General Condition 47.

~~42. The Consent Holder must assess the results in gGeneral Ccondition 420, Table 1, rows C and D for surface water sites GI1, GI2, GI3, GI 5, the estuary, and the south eastern and eastern constructed wetlands, and the northern leachate pond against the trigger levels set out in Attachment B.:~~

~~a) ANZG (2018) Freshwater 80% Toxicant Default Guideline Values;~~

~~b) ANZG (2018) Marine water 80% toxicant Default Guideline Values;~~

~~c) Regional Plan: Water Schedule 16A limits for Ammoniacal-N and Nitrate-N;~~

~~d) National Policy Statement for Freshwater Management 2020 Table 5 Ammonia (toxicity) Ammoniacal-N for 80% Species Protection Level;~~

~~e) A National Policy Statement for Freshwater Management 2020 Table 6 Nitrate (toxicity) Nitrate-N for National Bottom Line;~~

~~43. The Consent Holder must assess the results in Ggeneral Ccondition 402, Table 1, rows C and D for the groundwater monitoring wells C and D and leachate trench at PS3 against the historical data obtained from previous annual monitoring; andtrigger levels derived from the most recent five years of groundwater monitoring. Trigger levels for each parameter should be set at the mean of the past five years, plus or minus two standard deviations. The comparison of results against trigger levels must include a trend analysis and assessment of statistical significance.~~

~~*Advice note: the derivation of trigger levels for monitoring wells with fewer than three years of historical data can be delayed until the completion of the first revision of the HHERA, scheduled to occur within three years of the issue of these consents.*~~

~~The Consent Holder must assess the results in gGeneral cCondition 402, Table 1, rows C and D for the eastern, and western sedimentation ponds against the existing trigger levels derived from the most recent five years of monitoring in each sedimentation pond, and from comparison to the ANZG (2018) freshwater or marine toxicity guidelines for 80% species protection. Trigger levels for each parameter should be set at the lower of~~
~~a) the mean of the past five years, plus or minus two standard deviations, or~~
~~b) at the ANZG (2018) freshwater or marine toxicity guidelines for 80% species protection~~

~~44.~~49. The Consent Holder must compile the results of any monitoring required under General Condition 44 (including any leachate, groundwater and surface water physiochemical monitoring, groundwater and surface water level monitoring, alerts from the leachate pumping system and monthly records of total leachate volumes pumped from the collection trench), into tables in digital format (excel spreadsheet file or comma separated value file). One table shall be compiled for each location that monitoring is undertaken.

~~45.~~50. The Consent Holder must provide the results of all monitoring to the Otago Regional Council:

a) Within 4 weeks where the ~~nominated guideline values or~~trigger levels established under General Conditions 46 and 47 ~~specified in 42Attachment B~~ are exceeded, except where the exceedance is at surface water monitoring sites GI1 and GI2 (which are upstream of the landfill);
b) Within 4 weeks where any historical maximum recorded for the site ~~specified in general condition 43~~ is exceeded;
c) Otherwise on request; and
d) Provide the results of all monitoring and to both Te Rūnanga o Ōtākou, and Otago Regional Council as part of the Annual Report required by Ggeneral Ccondition 62.

~~46.~~51. In the event that the monitored contaminant concentrations exceed the ~~nominated guideline values or~~trigger levels established under General Conditions 46 and 47 ~~specified in Attachment B~~ at surface water sites GI3 and GI5, and the contaminant concentrations at those sites also exceed the concentrations detected at surface water sites GI1 and GI2 upstream of the landfill, the Cconsent Hholder must undertake two additional rounds of surface water sampling at all surface water sites, no later than 1 week, and no later than 2 weeks after receiving the results of the initial exceedance and provide the results to ORC.

~~47.~~52. If following completion of the additional two monitoring rounds in General C~~c~~ondition 52 contaminant concentrations continue to exceed the ~~nominated guideline values or~~trigger levels at surface water sites GI3 and GI5, and the concentrations continue to be elevated in comparison to the concentrations detected at surface water sites GI2 and GI2~~3~~ upstream of the landfill, the Consent Holder must undertake an investigation into potential causes of the exceedances and prepare a report which must be provided to ORC and Te Rūnanga o Ōtākou no later than 1 month following receipt of the additional monitoring round results. The report must outline likely causes of exceedances, statistical analysis of water quality, actions to be taken to prevent further exceedances and proposed follow up monitoring where necessary.

~~48.~~53. Should the groundwater level monitoring required under General Conditions 44 – 53 identify outward gradients, or a risk identified that the gradient into the leachate collection trench may not be maintained, the consent authority must be notified immediately.

54. Should the results of any monitoring required under General Conditions 44 - 53 indicate~~s~~ adverse effects on water quality directly attributable to landfill leachate from the landfill entering the Kaikorai Stream, the Consent Holder must ~~initiate measures to avoid or mitigate those these effects. Such measures may include, but are not limited to, sheet piling.~~ within 3 months prepare an Adaptive Management Plan. The plan must include the following information at a minimum:

a) Additional investigations and groundwater and surface water monitoring required to confirm where leachate migration is occurring, including timeframes.
b) Ecotoxicology investigations to establish the chemical characterisation of the leachate and test the toxicity of these contaminants in the receiving environment on aquatic fauna.
c) Further targeted ecological investigations, if the ecotoxicology investigations find leachate contaminants are a risk to aquatic fauna.
d) Proposed measures to be implemented to avoid or mitigate effects of leachate migration, including timeframes.
e) Follow up monitoring to confirm the effectiveness of the implemented measures.
f) Contingency actions in the event the implemented measures are not effective.
g) A review process that includes Te Rūnanga o Ōtākou and Otago Regional Council.

55. The Adaptive Management Plan must be submitted to the Otago Regional Council for certification in accordance with General Condition 4.

56. The Adaptive Management Plan certified under General Condition 4 must be implemented in accordance with the timeframes specified in the Plan.

~~49. In the event that leachate is confirmed to be migrating offsite and entering Kaikorai Stream, the Applicant must implement an adaptive management plan that includes the following information at a minimum:~~

~~50.~~

Commented [SM9]: Applicant to provide list of possible engineering solutions

~~a) Additional surface water monitoring locations where leachate is likely to be entering the receiving environment;~~

~~b) Sampling methodology, including parameters to be measured (it may be appropriate to include ecotoxicity specific monitoring);~~

~~c) Appropriate thresholds or guidelines to assess results against; and~~

~~d) If appropriate, guidance on how long the additional monitoring should continue (i.e., set time, or until a certain threshold is reached).~~

~~*Advice note: for the avoidance of doubt, the adaptive management provisions are to implemented in addition to the mitigation measures required by Condition 52*~~

~~51.~~57. The Landfill Development Management Plan required under General Condition 12 and Landfill Closure Management Plan required under General Condition 16 must include practices and procedures for the long-term monitoring of groundwater and surface water, including as a minimum:

a) Groundwater and surface water monitoring locations, parameters, trigger levels, and frequencies for each monitoring location and monitoring parameter. As a minimum this is to include monitoring requirements detailed in ~~g~~General C~~c~~onditions 44 – 54

b) Monitoring methodologies; and.

c) Record keeping and reporting requirements.

Human Health and Environmental Risk Assessment

~~52.~~58. The ~~c~~Consent H~~h~~older must commence a review of the interim Human Health and Environmental Risk Assessment, prepared by GHD, dated 20 May 2024 within 3 years of the ~~commencement~~ granting of these consents based on the collection of three years of groundwater and surface water monitoring data in accordance with General C~~c~~onditions 44–54, including for PFAS and PFOA. An updated Human Health and Environmental Risk Assessment based on that review must be provided to Otago Regional Council within 6 months of the commencement of the review.

Complaints

~~53.~~59. The ~~c~~Consent H~~h~~older must provide contact details on the Dunedin City Council website that enable members of the public to contact the landfill operator at all times, including in case of emergency.

~~54.~~60. A complaint management, investigation and reporting system must be maintained by the Consent Holder during construction, operation, closure and aftercare of the landfill to record the receipt and management of all complaints, including those regarding odour or dust. The following details must be recorded:

a) Type, date, and time of complaint;

b) Name and address of complainant (if available);

c) Location from which the complaint arose;

d) Wind direction at the time of complaint (if relevant);

e) The likely cause of the complaint;

f) The action taken as a result of the complaint; and

g) The response to the complainant.

~~55.~~61. The Consent Holder shall notify Otago Regional Council of any complaints received as soon as practicable and within~~e~~ 1 working day of the complaint being received. All complaints must be investigated, and a response provided to the complainant. The results of investigations, actions, and responses to complainants shall be provided to the Otago Regional Council within 10 working day of the complaint being received. The complaints record must be made available to the Otago Regional Council on request, and shall be provided in summary form yearly in the Annual Report required by General Condition 62.

Annual Monitoring Report

~~56.~~62. The Consent Holder must compile an annual monitoring report on the operation of the landfill, including:

a) The status of landfill construction, completion of landfilling of any stage, and closure and aftercare activities completed during the preceding year;

~~a)~~b) The details of any upgrades to the landfill gas and leachate management systems undertaken in the previous year~~, including as-built construction reports and surveys demonstrating the location, extent, and nature of upgrades to the landfill gas collection network or leachate management system~~;

~~b)~~c) Any non-compliance with the conditions of these consents or difficulties in achieving the practices and procedures in the Landfill Development Management Plan or Landfill Closure Management Plan which have arisen in the preceding year and the measures taken to address them;

~~c)~~d) Any matters raised by the CLG and the Consent Holder's responses to those matters;

~~d)~~e) Any emergency management procedures and contingency response procedures specified in the Landfill Development Management Plan or Landfill Closure Management Plan that were implemented during the preceding year;

~~e)~~f) Landfilling operations and closure and aftercare activities proposed for the next year of the landfill operation; and

~~f)~~g) Collated summaries and analyses of all monitoring results and other data required under these consents, including:

i. The results obtained for all leachate, groundwater, surface water and leachate pumping system monitoring undertaken. Results shall be supplied in table format within the report, with a copy of all laboratory analytical reports appended.

ii. A description of the dates of monitoring and climatic conditions on those dates, and any other pertinent field observations.

iii. Complaint data, including but not limited to odour and dust, and related investigations and responses.

iv. Results of landfill surface methane monitoring surveys and any remedial actions arising.

~~ii.~~v. The results of odour monitoring, including all field monitoring record sheets.

vi. Interpretation of all the data, particularly with regard to landfill performance. Trends must be identified and discussed.

vii. Results and monitoring records relating to the thermal monitoring of the active tip face.

h) A report, prepared at the completion of each planting season, that:

i. confirms all areas planted that year;
ii. confirms that all plantings have been completed in accordance with the certified ~~VRMP~~VMRP required by condition 43 of Discharge Permit RM23.185.01;
iii. confirms the status of plant maintenance, including survival and canopy closure from prior planting seasons; and
~~iii.~~iv. includes supporting photographic evidence for points (i)-(iii).

The report must be forwarded to Te Rūnanga o Ōtākou and Otago Regional Council by 1 October each year unless an alternative date is agreed in writing with the Otago Regional Council. The Consent Holder must make the report publicly available on the Dunedin City Council website.

Bond

~~57.~~63. In the event that the landfill changes to private ownership, the Consent Holder must execute and maintain in existence a bond in the form set out in Attachment B.

Commented [SM10]: Applicant to please provide. Contents of bond condition must be agreed by ORC

Review of Conditions

~~58.~~64. Pursuant to Section 128 of the Resource Management Act 1991 the consent authority may within six months of the anniversary date these resource consents each year serve notice of its intention to review the conditions of these consents for the purposes of:

a) Determining whether the conditions of these consents are adequate to deal with any adverse effect on the environment which may arise from the exercise of these consents and which it is appropriate to deal with at a later stage, or which becomes evident after the date of ~~commencement~~ the granting of these consents;
b) Ensuring the conditions of these consents are consistent with any National Environmental Standards, relevant regional plans and the Otago Regional Policy Statement;
c) Ensuring the waste acceptance criteria conditions of these consents are consistent with applicable Ministry for the Environment and Environmental Protection Authority guidance, standards and notices, including for emerging contaminants;
d) Reviewing the requirements and frequency of monitoring and reporting required under these consents; or
e) Requiring the adoption of the best practicable option to reduce any adverse effect on the environment.

Advice Notes

For the purposes of these consents:

- 'site' means all land within the designation boundary shown on Figure 8 in section 7.1 of the Green Island Closure, Assessment of Environmental Effects, Boffa Miskell, March 2023.

- 'landfill operational area' means the area shown as such on Figure 8 in section 7.1 of the Green Island Closure, Assessment of Environmental Effects, Boffa Miskell, March 2023.

- 'landfill extent" means the area shown as such on Figure 8 in section 7.1 of the Green Island Closure, Assessment of Environmental Effects, Boffa Miskell, March 2023.

- ‘active landfilling area’ means the area of exposed waste.

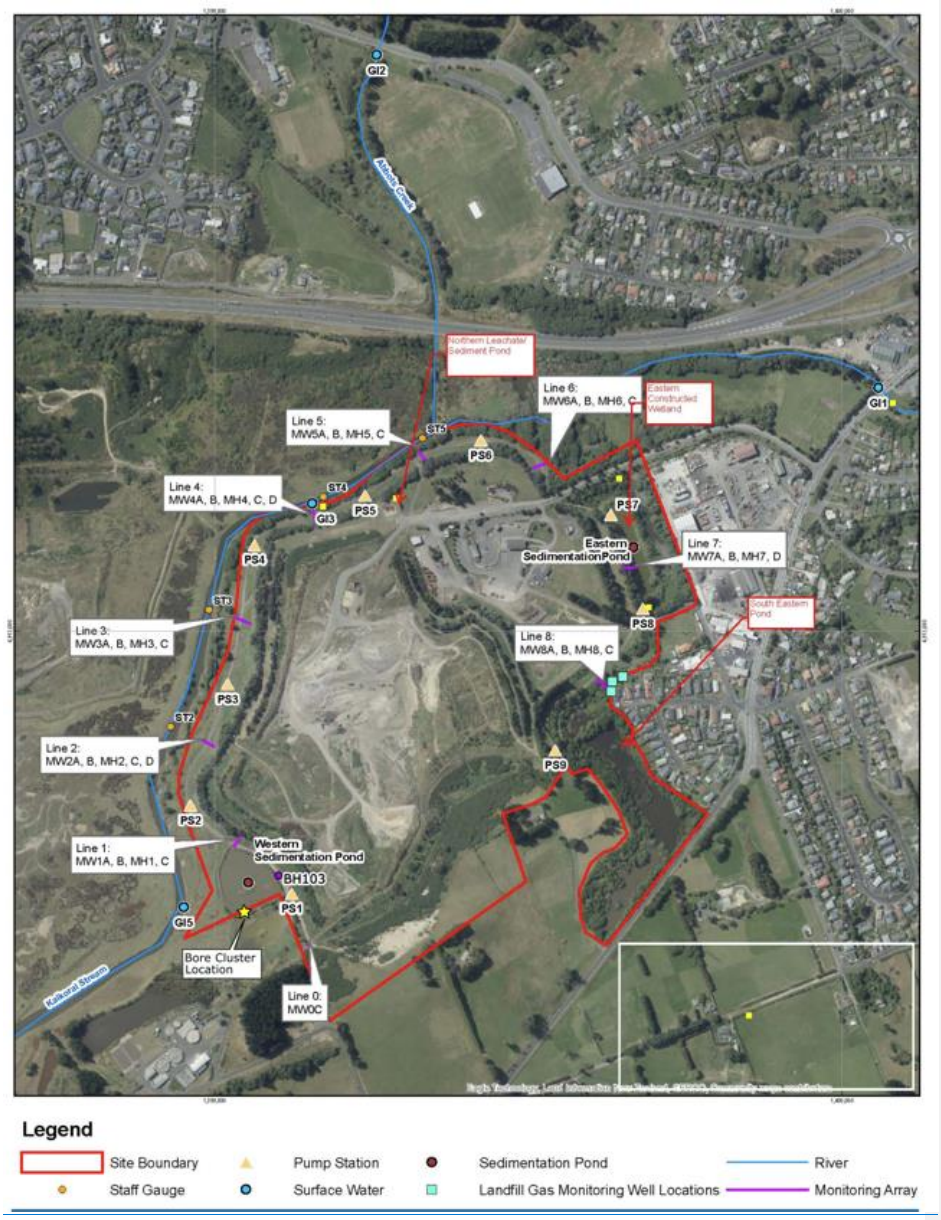
- ‘highly odorous wastes’ means, but is not limited to:
    - Wastewater treatment sludges, biosolids, and screenings;
    - Wastewater pump station screenings and grits;
    - Animal remains;
    - Waste from meat processes;
    - Wool scour, tannery, and fellmongery waste; and
    - Fish waste.

- ‘stormwater’ means water running off from any impervious surface such as roads, carparks, roofs, as well as any other surface run-off that is collected and/or intercepted.

- ‘liquid waste’ means any waste that contains free liquid on arrival at the landfill, or has a solids content of less than 20%, except such waste that passes the USEPA Paint Filler Liquids Test (EPA Method 9095A).

- ‘closure’ means the completed state of the landfill following:
    - Placement of the capping layer on the final stage of the landfill, and establishing vegetation cover.
    - Completion of the installation of the LFG wells and associated pipework.
    - Establishment of vegetation over the soil borrow area.
    - Removal of any site facilities and infrastructure that is not required during the aftercare period or modifying such infrastructure for the aftercare period.

ATTACHMENT A – GROUNDWATER AND SURFACE WATER MONITORING LOCATIONS



ATTACHMENT B – MONITORING SCHEDULE

Table A1: Recommended monitoring parameters, frequency, and triggers for GI1, GI2, GI3, GI5, the estuary, and the south eastern and eastern constructed wetlands. Based on draft consent condition 40, Table 1.

	Frequency of Monitoring	Measurement/Analyte	ANZG (2018) Freshwater 80% Toxicant DVG (µg/L – unless stated otherwise)	ANZG (2018) Marine 80% Toxicant DVG (µg/L – unless stated otherwise)	'Adopted' ORC Consent 3840_V1 Condition 6(ii) (µg/L – unless stated otherwise)	Other Guideline (µg/L – unless stated otherwise)	Source	Recommended Trigger (µg/L – unless stated otherwise)
C	Quarterly (reduced to 6 monthly, two years following landfill closure)	pH (pH units)	—	—	7.2–8.0 (pH units)	7.2–8.0 (pH units)	ANZECC (2000)	7.2–8.0 (pH units)
		Electrical conductivity (mS/cm)	—	—	—			Based on historical data
		Dissolved oxygen (mg/L)	—	—	—	11-day minimum: 4.0 mg/L 7-day mean minimum: 5.0 mg/L	NPS-FM (2020)	11-day minimum: 4.0 mg/L 7-day mean minimum: 5.0 mg/L
		Boron	2500	—	—			2500
		Ammoniacal nitrogen	2300	1700	—	200 annual median: 1300 95th %ile: 2200	Regional Plan: Water Schedule 16A NPS-FM (2020) 80% species protection (below national bottom line)	1700
		Nitrate nitrogen	—	—	1700	3600 annual median: 2400 95th %ile: 3500	Regional Plan: Water Schedule 16A NPS-FM (2020) 80% species protection (national bottom line)	2400
		Chloride	—	—	—			Based on historical data
		PFOS (first three years)	—	—	—			0.13
		PFOA (first three years)	—	—	—			220
		Aluminium	150	—	—			150
		Arsenic	140	—				140
		Cadmium	0.8	36	—			0.8
		Chromium	40	85	40			40
		Copper	2.5	8	2.5			2.5

		Iron	—	—	—			Based on historical data
		Lead	9.4	12	—			9.4
		Manganese	3600	—	—			3600
		Nickel	17	560	—			17
		Zinc	21	21	—			21
		Total suspended solids	—	—	—	New parameters (noting that Kaikorai Stream, upstream of the landfill likely exceeds these currently)		Based on historical data
		E. coli	—	—	—		NPS-FM (2000) national bottom line	540 MPN/100 mL
		Enterococci	—	—	—		Recreational Water Quality Guidelines	280 MPN/100 mL
D	Annually	Sodium	—	—			-	Based on historical data
		Potassium	—	—				Based on historical data
		Calcium	—	—				Based on historical data
		Bicarbonate	—	—				Based on historical data
		Sulphate	—	—				Based on historical data
		Dissolved reactive phosphorus	—	—				Based on historical data
		Volatile organic compounds (VOC)	—	—				Based on historical data
		Semi volatile organic compounds (SVOC)	—	—				Based on historical data
		PFOS	—	—		0.13	PFAS National Environmental Management Plan (version 2.0)	0.13
		PFOA	—	—		220		220
		Cyanide	18	14	18			14
		Chemical oxygen demand (COD)	—	—				Based on historical data
		Biological oxygen demand (BOD)	—	—				Based on historical data

ATTACHMENT B – BOND

B. Discharge Permit RM23.185.01 ~~[insert consent number]~~ Discharge of Waste and Leachate to Land Conditions

Purpose: To discharge waste and hazardous waste, and leachate onto land, in a manner that may result in contaminants entering groundwater for the purpose of the operation, closure, and aftercare of the Green Island Landfill.~~Purpose of this consent: to discharge waste and hazardous waste, and leachate onto land, that may result in contaminants entering groundwater for the purpose of the operation and closure of a Class 1 landfill.~~

Expiry date: ~~this consent will expire on [insert date 35 years from issuing].~~XX Month 2060

General

1. Under section 125 of the Resource Management Act 1991, this consent lapses five years after the date of issue of the consent unless:

   a) The consent is given effect to; or

   b) The Consent Authority extends the period after which the consent lapses.

   ~~This consent will lapse [insert date 5 years from issuing] unless given effect to before that date.~~

2. This consent is also subject to the general conditions in Schedule 1 – General Conditions and Attachments A-B to that Schedule. In the event of differences or conflict between the general conditions and the conditions of this consent, the conditions of this consent prevail.

3. Waste acceptance at the Green Island Landfill must cease no later than 12 months after ~~once~~ the Smooth Hill Landfill has been commissioned and begins accepting waste, except that this condition does not apply to the acceptance of cleanfill material, contaminated soils, and capping soils required to complete the final cap in accordance with General Conditions 36 and 37.

Commented [SM11]: Open to suggestions on wording. The intention is to not allow for ongoing waste disposal at Green Island once Smooth Hill is running.

Leachate Collection System

~~1. Consent Holder must commence a leachate pumping trial, to assess the effectiveness of active leachate extraction from landfill gas wells at reducing the leachate head within the landfill cells and reducing the potential for offsite migration of leachate. The Consent Holder must submit in writing to the Consent Authority a plan that sets the scope of the trial. This plan must be prepared by a suitably qualified and experienced person, and must include, at a minimum:~~

~~a) The proposed duration of the trial, which must be at least six months;~~

~~b) Procedures for how leachate levels will be measured during the trial, including locations and frequency of measurement;~~

~~c) How the effectiveness of the active extraction at reducing leachate head and preventing offsite migration of leachate will be assessed; and~~

d) The requirement to discharge any extracted leachate to the Green Island Wastewater Treatment Plant by the quickest practicable route, which may include discharge to the leachate collection trench, but must not involve the discharge of leachate to land where it would soak into the waste mass.

e) The plan must be submitted to the Consent Authority for certification in accordance with General Condition 4.

Commented [SM12]: Feedback on contents and timing of this trial is welcomed.

2. In the event that:

a) The leachate pumping trial described in Condition 4 of this consent demonstrates that the elevated levels of leachate in the waste mass are resulting in adverse environmental effects, then the Consent Holder must:

i. Undertake a Hydrogeological Assessment or equivalent to derive a practical target leachate head that minimises the adverse effects on the environment; and

ii. Maintain leachate head at this target level for the duration of consent.

b) The leachate pumping trial described in Condition 4 of this consent does not indicate that the elevated levels of leachate are resulting in any specific adverse effects, the Consent Holder must at all times ensure that the head of leachate above the base of the landfill is minimised, without compromising slope stability, as a matter of best industry practice.

3.4. The additional internal leachate drains within the southwestern area of the landfill shown on drawing 12547621-C204 must be installed prior to the placement of any new waste in this area. The drains must discharge to the leachate collection trench.with General Condition

4.5. Extension of the leachate collection trench with associated leachate pump stations along the southern side of the landfill as shown on drawing 12547621-C204 must be completed within 3 years of the issue granting of this resource consent. The extended section of trench must be subject to detailed design which must:

a) Be undertaken by a suitably qualified and experienced person;

b) Be designed with resilience to the anticipated deformations under a ULS seismic event; and

c) Be submitted to the Consent Authority for certification in accordance with General Condition 4.

3.6. The following works must be completed at least 6 months prior to the final acceptance of waste at the landfill:

a) Installation of an additional leachate rising main and power supply cable for the leachate collection pump stations on the ground surface.

b) Raising the level of the existing manholes, chambers, and electrical controls for the leachate collection pump stations to minimise the risk of inundation by flood waters.

4.7. Construction of the works listed in Cconditions 4 and 5 must:

a) Be managed to ensure effects on slope stability and generation of odour and dust are minimised.

b) Implement an accidental discovery protocol to manage effects on any undiscovered archaeological sites

c) Ensure any waste or soil material that is removed is transferred and disposed of in the active landfilling area.
d) Ensure any dewatering water from excavations is directed to the leachate collection trench for disposal.
e) Ensure the geology of the area surrounding the extension to the leachate collection trench is physically assessed and logged, including photographic record, and records sent to the Otago Regional Council within 3 months of completion of the works. Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.

~~5.~~8. Any stormwater diversions and discharges, air discharges, and disturbance of contaminated land associated with the construction works under C~~c~~onditions 4 and 5 must comply with the conditions of resource consents RM23.185.05, 06, and 08 ~~[insert numbers]~~.

~~6.~~9. The leachate collection trench must be operated during operation, closure, and aftercare of the landfill to:
a) Maintain a depression in the phreatic (zone of saturation) groundwater level surface at all times. The depression of the phreatic surface must be sufficient to cause the drain to intercept phreatic groundwater which would ordinarily have flowed outward from the trench to adjacent groundwater and the Kaikorai Stream or associated water bodies. The presence of the depression must be determined by measuring the slope of the phreatic groundwater level between the leachate collector trench and the Kaikorai Stream, and the leachate collection trench and the fluid level in the landfill. The slope must be inward, towards the collector drain at all times; and
b) Ensure the effective long term containment, collection and monitoring of contaminated leachate and to protect the Kaikorai Stream and estuary, coastal waters and the uses and values associated with these waters, including those associated with humans, plants, animals, and aquatic life.

~~5.~~10. The leachate collection system must be operated to ensure the maximum head of leachate within the landfill is generally near to or below 12 metres above mean sea level, and no greater than 16 metres above mean sea level, within 40m of the top edge of the landfill.

~~9.~~11. All leachate collected by the leachate collection system must be conveyed to the Green Island Wastewater Treatment Plant for disposal.

~~10.~~12. The following must be retained on site at all times:
a) An on-site standby electrical supply to ensure that the operation of the leachate collection system is not interrupted by any loss of mains power supply.
b) Supplies of leachate rising main pipe, power cable, and spare submersible pumps to enable repairs to the leachate collection system.
c) A minimum of 5000m^3 of intermediate and capping soils to enable repairs to the cover and capping systems.

~~12.~~13. The leachate collection system must be maintained to enable its ongoing operation at all times and that system must restored as soon as practicable in the event of a malfunction or fault. The Landfill Development Management Plan required by Gg~~g~~eneral C~~c~~ondition 12 and Landfill Closure Management Plan required by Gg~~g~~eneral ~~c~~Condition 16 must include maintenance practices and procedures for the leachate collection system, and emergency response procedures following a seismic event.

~~13.~~14. Effective measures must be implemented to minimise stormwater infiltration and runoff into areas of uncovered waste and the leachate collection system. The Landfill Development Management Plan required by Gg~~g~~eneral C~~c~~ondition 12 must describe the stormwater infiltration and runoff measures.

~~14.~~15. The Consent Holder must operate, and maintain a monitoring system for the operation of the leachate pumping system. The system must automatically trigger an alert in the event of:

a) A pump fault;
b) A low water level in a pump wet well; and
c) A high water level in a pump wet well.

16. The system must be continuously monitored. In the event of an alert being raised, the cause of the alert must be investigated within twenty four hours and appropriate remedial measures must be implemented. The following information shall be recorded for each alert:

a) the date and time of the alert;
b) the nature of the alert;
c) the reason for the alert; and
d) the date, time and nature of the action taken to remedy the cause of the alert.

~~15.~~17. The Consent Holder must continuously monitor and record the flow of the pumped discharge from the combined leachate collection sumps and provide the results to Otago Regional Council upon request and additionally as part of the Annual Report required by Gg~~g~~eneral C~~c~~ondition 62.

~~16.~~18. The Consent Holder must record the leachate level at landfill gas well GW17 monthly and provide the results to Otago Regional Council upon request and as part of the Annual Report required by Gg~~g~~eneral C~~c~~ondition 62.

Waste Acceptance and Placement

~~17.~~19. The active landfilling area must not be open to the general public.

~~18.~~20. Kerbside collected food and garden organic waste streams must be processed separately from other waste to minimise disposal of this material at the landfill.

~~19.~~21. Materials accepted into the landfill must be limited to the following as defined by the WasteMINZ Technical Guidelines for Disposal to Land 2018:

a) municipal solid waste (MSW) ;
b) household waste;
c) commercial waste;

d) industrial waste;
e) construction and demolition waste;
f) clean fill material;
g) managed fill material;
h) contaminated soil; and
i) hazardous waste.
j) liquid waste.

~~20.~~22. Waste acceptance criteria for the materials in C~~c~~ondition 22 must be developed and included in the Landfill Development Management Plan required by G~~g~~eneral C~~c~~ondition 12. Except for the acceptance of liquid waste, the waste acceptance criteria must give effect to the following:

a) Conditions 23 and 24 of this consent;
b) The list of prohibited waste as defined in Appendix I.1 the WasteMINZ Technical Guidelines for Disposal to Land 2022 or any updated or equivalent replacement New Zealand issued guidelines;
c) Landfill waste acceptance criteria in the Ministry for the Environment Module 2: Hazardous Waste Guidelines, 2004, and specifically:
    i. The Module 2 Class A total concentration (TC) limits are to be used as screening acceptance limits; and
    ii. Where the TC limits under (i) above are exceeded, the Module 2 Class B toxicity characteristic leaching procedure (TCLP) limits are to be used to determine the acceptability of material for disposal.
d) Landfill disposal standards and notices issued by the Environmental Protection Authority under the Hazardous Substances and New Organisms Act 1996.

~~21.~~23. Medical wastes must only be accepted in accordance with NZS4304:2002 Healthcare Waste Management or subsequent amendments.

~~22.~~24. Asbestos must only be accepted in accordance with the Health and Safety in Employment (Asbestos Regulations) 2016 or subsequent amendments.

~~23.~~25. Material accepted into the landfill must meet the waste acceptance criteria included in the Landfill Development Management Plan. Any waste not meeting the criteria must not be accepted for disposal at the landfill.

~~24.~~26. The Consent Holder must review the waste acceptance criteria in the Landfill Development Management Plan annually, and prepare a report identifying any changes and/or additions required to give effect to any changes in applicable Ministry for the Environment and Environmental Protection Authority guidance, standards and notices, including as a result of emerging contaminants. The report must be provided as part of the annual review of the Landfill Development Management Plan under General Condition 12 to the Otago Regional Council for recertification of the Landfill Development Management Plan in accordance with General Condition 4.

~~25.~~27. Prior any new commercial waste transporter being able to dispose waste at the landfill, or in the case of regular transporters before there is a change to the nature of the waste being disposed of, the Dunedin City Council Landfill Engineer must first confirm to the waste transporter the material meets the waste acceptance criteria in the Landfill Development Management Plan.

~~26.~~28. A notice must be placed at the landfill entrance which identifies the wastes that are unacceptable at the landfill.

~~27.~~29. The landfill site must be securely fenced and the gates are closed outside of operating hours.

~~28.~~30. Waste deliveries must only be received at the landfill between the hours of:

a) Monday to Saturday 8.00am – 5.30pm.
b) Sunday 9.00am – 5.30pm.

Waste deliveries must not be received at the landfill on Christmas Day, Easter Friday, and the morning of Anzac Day (until 1pm).

~~29.~~31. Random visual inspections of incoming loads for the presence of hazardous waste must be undertaken by the landfill operator at a minimum rate of 1 in 50 loads and tipping of all waste into the landfill must be supervised. The Landfill Development Management Plan required by ~~G~~general ~~C~~condition 12 must include practices and procedures for waste inspection and rejection of loads.

~~30.~~32. Highly odorous waste received must be:

a) Pre-booked to ensure preparations are made including ensuring cover material is available at the disposal location; and
b) meet the requirements of ~~G~~general ~~C~~condition ~~30~~31.

~~31.~~33. The Landfill Development Management Plan required by ~~G~~general ~~c~~Condition 12 must include specific practices and procedures for the pre-acceptance, handling and placement of special waste, hazardous waste, and highly odorous waste. This must include as a minimum the requirements for prioritising placement and covering of waste as required by ~~G~~general ~~C~~condition 31 and condition 32 above.

~~32.~~34. The Consent Holder must maintain records of:

a) The quantities and types of waste accepted and rejected;
b) Load inspections; and
c) Disposal locations of special waste, hazardous waste, and highly odorous waste.

These records must be included in the Annual Report provided to the Otago Regional Council under General Condition 62.

~~33.~~35. Waste must only be discharged onto, or into, land within the waste placement extent shown on drawing 12547621- G102.

Landfill Fire Prevention and Response

~~34.~~36. No burning must occur anywhere on the landfill site and combustible materials must not be stockpiled over the landfill extent.

~~35.~~37. The outcomes of the review of the landfill's waste screening procedures to lower the potential for prohibited and higher risk flammable wastes to be landfilled at the site, including waste such as marine flares, gas bottles, pool chlorine, and hot loads must be implemented prior to 31 March 2025.

~~36.~~38. A fixed mounted thermal imaging camera capable of scanning the active landfilling area and vegetated surface of the landfill and triggering an alarm in the event of a surface fire being detected, must be installed by ~~31 March 2025~~within 3 months of the granting of this consent and maintained in an operational state.

~~37.~~39. The following must be provided on site by ~~31 March 2025~~within three months of the granting of this consent:

a) The site's water cart must be retrofitted with a firewater cannon capable of spraying water ~~at least 50 m~~as far as practicable, or alternatively a portable pump must be provided capable of being fitted to the water cart and spraying water ~~at least 50 m~~as far as practicable.

b) Water tanks containing at least 60,000 litres of water positioned close to the active landfilling area at all times.

~~38.~~40. The active landfilling area must be under the observation or surveillance of the landfill operator at all times during landfill operating hours.

~~39.~~41. A 10 m wide firebreak free of combustible vegetation and material must be maintained around the landfill footprint at all times.

~~18.~~42. The Landfill Development Management Plan required under General Condition 12 must include practices and procedures prepared by a suitably qualified person to ensure the risk of landfill fires is prevented as far as practicable, and any fires are promptly detected, responded to and extinguished, and to achieve the conditions of this consent. The practices and procedures must be developed in consultation with Fire and Emergency New Zealand (FENZ) and must include the following as a minimum:

~~a) Preparation of a landfill Fire Risk Assessment to inform, and where required revise, the mitigation, monitoring, and management detailed in the Fire Management Plan, including specific consideration of subsurface fires and battery fires.~~

~~b)~~a) Fire prevention measures to be implemented to prevent fires from igniting in the landfill and any other areas of the site;

~~c)~~b) Fire detection procedures to be implemented during operating hours and after-hours;

~~d)~~c) Fire reporting and notification procedures to emergency services, neighbours and regulators, including a directory of notification contact details;

~~e)~~d) Fire risk mitigation and readiness features.

Commented [SM13]: Applicant to provide update - has this been done and if not is the timeframe still appropriate?

Commented [SM14]: Applicant to provide update - has this been done and if not is the timeframe still appropriate?

Commented [SM15]: Applicant to provide update - has this been done and if not is the timeframe still appropriate?

~~f)~~e) Fire response procedures to be implemented for surface and sub-surface fires, including monitoring;

~~g)~~f) Incident reporting and cause investigation protocol; and

~~h)~~g) Protocol for review and evaluation of fire causes, effectiveness of fire prevention, detection mitigation and response measures, and process for continuous improvement, including conducting regular simulated fire drills.

Advice Note: In addition to the measures above, landfill gas monitoring management measures contained in the discharge to air resource consent RM23 [insert consent number] are relevant to landfill fire prevention and response.

Vegetation Management and Restoration Plan

~~41.~~43. A Vegetation Management and Restoration Plan (VMRP~~VRMP~~) must be prepared by a suitably qualified person within ~~1 year~~six months of the granting of this consent. This Plan shall be prepared in accordance with the Draft Vegetation ~~Restoration~~ Management and Restoration Plan Framework (Boffa Miskell, 2023). The purpose of the Plan is to manage the health and long-term replacement of the existing screening vegetation on the site, and provision of riparian planting, with the objective of ensuring the landfill and waste minimisation and transfer facilities continue to be integrated into the surrounding landscape, ~~any~~ adverse visual effects are minimised, existing views of Pukemakamaka/Saddle Hill are maintained, and the enhancement of ecological and cultural values. The Plan must be developed in consultation with Te Rūnanga o Ōtākou. As a minimum the Plan must include:

a) A survey of the health of the existing trees within the site and other DCC owned areas for revegetation, by an appropriately qualified arborist or similar expert, with knowledge of local environmental conditions.

b) Routine monitoring and maintenance of the existing trees to promote their health and long-term stability.

c) Long-term post closure actions for the replacement of the existing trees, incorporating eco-sourced native species to enhance natural character, landscape, and amenity values, and their ongoing maintenance. This will be carried out in a staged process demonstrated to best provide for the continuation of vegetation screening of an effective scale and height, particularly with regards to the outlooks of surrounding residents.

d) Riparian planting and pest management to support restoration of the ecological values of the Kaikorai Estuary, provision of habitat for taoka species and rebalancing of mauri, and in consideration of identified values, both of wildlife supported and scenic values .

e) A detailed programme of works, including timeframes for implementation. A minimum three year plant maintenance period for new planting shall apply.

f) Key responsibilities of onsite personnel.

g) A review process that includes Te Rūnanga o Ōtākou and Otago Regional Council.

Advice note: A single Vegetation Management and Restoration Plan may be prepared covering both the landfill site under this consent and the RRP site under condition 20 of resource consent RM24.143.01.

44. The Vegetation Management and Restoration Plan must be submitted to the Otago Regional Council to assess that it has been prepared by appropriately qualified personnel in accordance with the conditions of consent and certification in accordance with General Condition 4.

~~42.~~45. The Vegetation ~~Restoration~~ Management and Restoration Plan certified under General Condition 4 must be implemented in accordance with the timeframes specified in the Plan and the vegetation maintained on an ongoing basis by the Consent Holder.

Bird management

46. The Consent Holder must avoid disturbance of native nesting birds during any tree removal that may occur as part of the Vegetation Management and Restoration Plan.

~~43.~~47. The Consent Holder must implement the Southern Black Backed Gull (SBBG) Management Plan, prepared by Avisure, dated November 2023, or any subsequent updated version of the plan, during the operation of the landfill. The purpose of the Plan is to manage Green Island landfill food availability and the breeding success of the existing SBBG population at Dunedin breeding sites where access is available, with the objective of reducing the existing level of bird strike risk to aviation prior to the closure of the Green Island landfill. The Plan must be developed in consultation with Te Rūnanga o Ōtākou, the Department of Conservation and Dunedin International Airport Limited. As a minimum the Plan must include:

a) Outcomes of consultation completed with Te Rūnanga o Ōtākou, the Department of Conservation and Dunedin International Airport Limited;
b) A monitoring regime which enables identification of SBBG breeding sites, SBBG baseline population characteristics, and how the SBBG population responds to management actions;
c) Monitoring of other bird species, including red billed gulls, to ensure they present no increased risk to aviation.
d) Measurable targets for the reduction of the SBBG population;
e) Description of management actions and methods to be implemented to limit SBBG breeding success at SBBG breeding sites ~~identified under condition 43(b)~~ where access is feasible, and limit landfill food availability at Green Island landfill leading up to its closure;
f) Procedures for liaison with and sharing of information with Te Rūnanga o Ōtākou, the Department of Conservation and Dunedin International Airport Limited; and
g) An adaptive management and review process.

Litter and pests

~~44.~~48. Windblown litter must be prevented from leaving the active landfilling area as far as practicable, and the build-up of litter within the site and surrounding the site boundaries must be monitored and material removed on at least a monthly basis. The Landfill Development Management Plan required by Ggeneral C~~c~~ondition 12 must include practices and procedures for litter management, including but not limited to control methods, inspections and removal of windblown litter.

~~45.~~49. Pest plants, mammalian pests (rodents and mustelids) and feral cats within the landfill operational area must be eradicated as far as practicable. The Landfill Development Management Plan required by Gg~~g~~eneral ~~c~~Condition 12 must include practices and procedures for pest management, including but not limited to eradication methods and pest monitoring.

C. Water Permit RM23.185.02 ~~[insert consent number]~~ Take of Groundwater and Leachate Conditions

Purpose of this consent: To take and use groundwater and connected surface water from the Kaikorai Stream through a leachate collection trench, and to take and use groundwater and leachate from groundwater bores, landfill gas wells, and a leachate collection trench, for the purpose of the operation and closure of the Green Island Landfill.~~**Purpose of this consent: to take up to [insert quality per day and year] of groundwater from the Kaikorai Stream through a leachate collection trench, and groundwater and leachate from groundwater bores, landfill gas wells, and a leachate collection trench, for the purpose of the operation and closure of a Class 1 landfill.**~~

Expiry date: ~~this consent will expire on [insert date 6 years from issuing].~~XX Month 2031

General

1. Under section 125 of the Resource Management Act 1991, this consent lapses five years after the date of issue of the consent unless:

   a) The consent is given effect to; or

   b) The Consent Authority extends the period after which the consent lapses.

   ~~This consent will lapse [insert date 5 years from issuing] unless given effect to before that date.~~

~~1.~~2. This consent is also subject to the general conditions listed in Schedule 1 – General Conditions and Attachments A-B of~~to~~ that Schedule. In the event of differences or conflict, between the general conditions and the conditions of this consent, the conditions of this consent prevail.

Take and use of groundwater

3. The taking of groundwater and leachate from the leachate pump stations must not exceed:
   ~~a)~~ an average volume of 432 m^3/day and a maximum of 1,728 m^3/day.
   ~~b) An average rate of 5 L/s and a maximum rate of 20 L/s.~~

   The taking of groundwater and leachate must only be used for the purpose of the operation, closure, and aftercare of the landfill.

4. The C~~c~~onsent H~~h~~older must continuously monitor and record the flow of the pumped discharge from the combined landfill leachate collection sumps in accordance with C~~c~~ondition 17 of discharge permit RM23~~[insert consent number]~~.185.01.

~~5. Prior to the first exercise of this consent:~~
   ~~a) the Consent Holder must install a:~~
      ~~i. Water meter(s) that which will measure the rate and the volume of water taken to within an accuracy of +/- 5% over the meter's nominal flow range. The water meter must be capable of output to a datalogger. The water meter must be~~

Commented [SM16]: Condition to align with water metering regulations

~~installed in a straight length of pipe, before any diversion of water occurs. The straight length of pipe shall be part of the pump outlet plumbing, easily accessible, have no fittings and obstructions in it. There shall be a straight length of pipe on either side of the water meter: on the upstream side there shall be a distance that is 10 times the diameter of the pipe and on the downstream side there shall be a distance of 5 times the diameter of the pipe.~~

~~ii. A datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.~~

~~iii. A telemetry unit which sends all of the data to the Consent Authority.~~

~~b) Provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time series database and conform with Consent Authority's data standards.~~

~~c) Within 20 working days of the installation of the water meter, datalogger and telemetry unit, any subsequent replacement of the water meter, datalogger or telemetry unit and at five yearly intervals thereafter, and at any time when requested by the Council, the Consent Holder must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:~~

~~i. Each device is installed in accordance with the manufacturer's specifications;~~

~~ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and~~

~~iii. that the water meter has been verified as accurate.~~

~~d) The water meter, datalogger and telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.~~

~~e) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.~~

~~f) The Consent Holder must report any malfunction of the water meter, datalogger or telemetry unit to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs. Photographs must be in colour and be in JPEG form.~~

~~*Advice note: the water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.*~~

D. Water Permit RM23.185.03 Diversion of Surface Water Conditions

Purpose of this consent: To divert water from working and non-working areas of the landfill, including from a defence against water structure water for the purpose of the operation, closure, and aftercare of the Green Island Landfill.

Expiry: XX Month 2060

General

1. Under section 125 of the Resource Management Act 1991, this consent lapses five years after the date of issue of the consent unless:

   a) The consent is given effect to; or

   b) The Consent Authority extends the period after which the consent lapses.

2. This consent is also subject to the general conditions listed in Schedule 1 – General Conditions and Attachments A-B of that Schedule. In the event of differences or conflict, between the general conditions and the conditions of this consent, the conditions of this consent prevail.

Diversion Infrastructure

3. Remedial works to repair the culvert shown on drawing 12547621-C402 that links the southeastern and eastern constructed wetlands must be implemented as a priority and physical works must ~~be~~commence ~~commenced~~ no later than 30 June 2025.

~~1.~~4. In the event that ongoing monitoring in accordance with General Condition 44 - 53 detects seepage of leachate into the culvert between the southeastern constructed wetlands to the eastern constructed wetlands shown on drawing 12547621-C402 following the completion of repair works, remedial measures must be designed and implemented to prevent the seepage of leachate within 3 years of the issue of this consent.

~~2.~~5. The existing leachate surface drain along the southern side of the landfill must be relocated downslope of the extension to the leachate collection trench to collect stormwater runoff as shown on drawing 12547621-C402 within 3 years of the issue of this resource consent.

~~3.~~6. The construction and repair works under C~~c~~onditions 4 and 5 must:

   a) Be managed to ensure effects on slope stability and generation of odour and dust are minimised.
   b) Implement an accidental discovery protocol to manage effects on any undiscovered archaeological sites.
   c) Ensure any waste or soil material that is removed is transferred and disposed of in the active landfilling area.
   d) Ensure that any discharges of sediment to surface water associated with repair of the culvert between the south eastern and eastern constructed wetlands are minimised.
   e) Ensure that any dewatering water from excavations associated with the relocation of the existing surface drain is directed to the leachate collection trench for disposal.

~~6.~~7. Any stormwater discharges, air discharges, and disturbance of contaminated land associated with the construction works under C~~c~~onditions 4 and 5 must comply with the conditions of resource consents RM23.185.05, 06, and 08 ~~[insert numbers]~~.

~~7.~~8. Any new temporary stormwater perimeter drains, channels and culverts intended to be used for less than 5 years must be designed to manage at least a 10% AEP (Annual Exceedance Probability) storm event. The stormwater infrastructure must be designed such that if this capacity is exceeded the preferential (secondary) flow path is, as far as practicable, away the landfill.

~~8.~~9. Any new permanent stormwater perimeter drains, channels and culverts that will be in service for greater than 5 years must be designed and constructed to manage a 1% AEP (Annual Exceedance Probability) storm event and must be designed such that if this capacity is exceeded the preferential (secondary) flow path is, as far as practicable, away from the landfill.

~~9.~~10. All temporary and permanent stormwater drains, channels, and culverts must be maintained to enable ongoing operation at all times and restored as soon as practicable in the event of damage or faults.

~~E~~D. Water Permit RM23~~ [insert consent number]~~ .185.04 Permanent Diversion of Surface Water conditions

Purpose of this consent: to permanently divert surface water in the Kaikorai Stream and Brighton Road Stream for the purpose of the operation, closure, and aftercare of the Green Island Landfill.

~~• to divert surface water and stormwater for the purpose of the operation and closure of a Class 1 landfill.~~

~~• to divert surface water in the Kaikorai Stream and Brighton Road Stream for the purpose of the operation and closure of a Class 1 landfill.~~

Expiry ~~date~~: ~~this consent will expire on [insert date 35 years from issuing].~~ XX Month 2060

General

1. Under section 125 of the Resource Management Act 1991, this consent lapses five years after the date of issue of the consent unless:

   a) The consent is given effect to; or

   b) The Consent Authority extends the period after which the consent lapses.

   ~~This consent will lapse [insert date 5 years from issuing] unless given effect to before that date.~~

~~4.~~2. This consent is also subject to the general conditions listed in Schedule 1 – General Conditions and Attachments A-B of ~~to~~ that Schedule. In the event of differences or conflict, between the general conditions and the conditions of this consent, the conditions of this consent prevail.

~~**Diversion Infrastructure**~~

~~5. In the event that ongoing monitoring in accordance with General Condition 40 detects seepage of leachate into the culvert between the southeastern constructed wetlands to the eastern constructed wetlands shown on drawing 12547621-C402 following the completion of repair works, remedial measures must be designed and implemented to prevent the seepage of leachate within 3 years of the issue of this consent.~~

~~6. The existing leachate surface drain along the southern side of the landfill must be relocated downslope of the extension to the leachate collection trench to collect stormwater runoff as shown on drawing 12547621-C402 within 3 years of the issue of this resource consent.~~

~~7. The construction and repair works under conditions 3 and 4 must:~~

~~f) Be managed to ensure effects on slope stability and generation of odour and dust are minimised.~~

~~g) Implement an accidental discovery protocol to manage effects on any undiscovered archaeological sites.~~

~~h) Ensure any waste or soil material that is removed is transferred and disposed of in the active landfilling area.~~

~~i) Ensure that any discharges of sediment to surface water associated with repair of the culvert between the south eastern and eastern constructed wetlands are minimised.~~

j) Ensure that any dewatering water from excavations associated with the relocation of the existing surface drain is directed to the leachate collection trench for disposal.

10. Any stormwater discharges, air discharges, and disturbance of contaminated land associated with the construction works under conditions 3 and 4 must comply with the conditions of resource consents RM23 [insert numbers].

11. Any new temporary stormwater perimeter drains, channels and culverts intended to be used for less than 5 years must be designed to manage at least a 10% AEP (Annual Exceedance Probability) storm event. The stormwater infrastructure must be designed such that if this capacity is exceeded the preferential (secondary) flow path is, as far as practicable, away the landfill.

12. Any new permanent stormwater perimeter drains, channels and culverts that will be in service for greater than 5 years must be designed and constructed to manage a 1% AEP (Annual Exceedance Probability) storm event and must be designed such that if this capacity is exceeded the preferential (secondary) flow path is, as far as practicable, away from the landfill.

13. All temporary and permanent stormwater drains, channels, and culverts must be maintained to enable ongoing operation at all times and restored as soon as practicable in the event of damage or faults.

FE. Discharge Permit RM23 [insert consent number] .185.05Discharge of Stormwater to the Kaikorai Stream conditions

Purpose of this consent: to discharge surface water and stormwater to the Kaikorai Stream for the purpose of the operation, closure, and aftercare of the Green Island Landfill.to discharge surface water and stormwater to the Kaikorai Stream for the purpose of the operation and closure of a Class 1 landfill (replacement for resource consent 3840C V1).

Expiry date: this consent will expire on [insert date 35 years from issuing].XX Month 2060

General

1. Under section 125 of the Resource Management Act 1991, this consent lapses five years after the date of issue of the consent unless:

   a) The consent is given effect to; or
   b) The Consent Authority extends the period after which the consent lapses.

   This consent will lapse [insert date 5 years from issuing] unless given effect to before that date.

1.2. This consent is also subject to the general conditions listed in Schedule 1 – General Conditions and Attachment A-B to of that Schedule. In the event of differences or conflict, between the general conditions and the conditions of this consent, the conditions of this consent prevail.

Stormwater management systems

2.3. The outlets of the eastern and western sedimentation ponds shown on drawing 12547621-C402 must be fitted with a shut off valve to enable the containment of spills within 3 years of the issue of this resource consent.

3.4. The works under cCondition 3 must:

a) Be managed to ensure effects on slope stability and generation of odour and dust are minimised.
b) Implement an accidental discovery protocol to manage effects on any undiscovered archaeological sites.
c) Ensure any waste or soil material that is removed is transferred and disposed of in the active landfilling area.
d) Ensure that any discharges of sediment to surface water are minimised.

4.5. Any stormwater discharges, air discharges, and disturbance of contaminated land associated with the construction works under condition 3 must comply with the conditions of this consent, as well as resource consents RM23.185.06, and RM23.185.08 [insert numbers].

5.6. The existing eastern and western sedimentation ponds shown on drawing 12547621-C402 must be retained during the operation, closure, and aftercare of the landfill to collect and treat stormwater prior to its discharge to the Kaikorai Stream.

~~6.~~7. The existing borrow area sedimentation pond shown on drawing 12547621-C402 must remain in operation until use of the borrow area is permanently closed and revegetated in accordance with C~~c~~ondition 11(e).

8. The northern leachate pond shown on drawing 12547621-C402 must discharge to the leachate collection system until the final capping of the landfill is completed, after which it shall be retained as a sedimentation pond to collect and treat stormwater runoff prior to its discharge to the Kaikorai Stream.

~~7. For the period of time that the northern leachate pond remains connected to the leachate collection system, the Consent Holder must ensure that the water level in the pond is managed to minimise the likelihood of overflow events.~~

~~8.~~9. All stormwater runoff must be managed as follows:

a) Clean non-contaminated runoff from the landfill margins and capped areas with permanent grass cover, and the waste diversion and transfer facilities must be discharged either directly or via the eastern and western sedimentation ponds, or northern sediment pond, to the Kaikorai Stream.

b) Sediment laden stormwater runoff from exposed earthworks, or areas where capping is in progress must discharge via the eastern, western, or borrow area sedimentation ponds to the Kaikorai Stream, or to the leachate collection trench.

c) Leachate contaminated stormwater that has or has potential to come into contact with waste or leachate~~, including any surface runoff from intermediate capped areas,~~ must be left to infiltrate the landfill or be directed to the leachate collection trench.

~~9.~~10. All sedimentation ponds and stormwater discharge systems must be maintained to enable ongoing operation at all times and restored as soon as practicable in the event of damage or faults.

Erosion and sediment control

11. Sediment generation and runoff from the site and into receiving waterbodies must be minimised as far as practicable. Best practice stormwater, erosion and sediment control management measures must be implemented during the operation, closure and aftercare of the landfill, which ensure:

a) The area of soil surfaces exposed at any one time is minimised;

b) Providing grades on the landfill surface that convey stormwater to the stormwater systems to minimise ponding of surface water on the landfill;

c) Sediment laden stormwater is directed to sedimentation ponds or the leachate collection system, in accordance with condition 9.

d) Temporary measures such as silt fences, sediment traps and temporary cover and stabilisation are installed to minimise the transport of sediment from exposed soil surfaces; and

e) Areas where earthworks activities are undertaken are progressively stabilised with vegetation or other means as soon as practicable upon completion.

12. The Landfill Development Management Plan required under General Condition 12 must include practices and procedures prepared by a suitably qualified person to ensure best practice erosion and sediment controls are implemented to ensure sediment generation and runoff from the site and into receiving waterbodies is minimised as far as practicable, and to achieve the conditions of this consent. As a minimum the erosion and sediment control practices and procedures of the Landfill Development Management Plan must include the following:
    a) Description of the location and types of erosion and sediment controls to be implemented;
    b) Details of progressive stabilisation of completed exposed areas;
    c) Responsibilities for implementing and managing erosion and sediment controls;
    d) Maintenance procedures for sediment and erosion controls;
    e) Inspection and monitoring procedures of the effectiveness of controls;
    f) Contingency response procedures to be undertaken in the event of unexpected sediment discharges and to respond to extreme weather events;
    g) Procedures for decommissioning redundant erosion and sediment controls; and
    h) Record keeping and reporting requirements.

Management of spills

13. Any spills of fuel, oil, leachate or similar contaminants to the environment must be contained and remediated as soon as practicable.

14. In the event that any spill of fuel, oil, leachate, or contaminants flows, or has the potential to flow into the eastern or western sedimentation ponds, the shut off valve at the outlet from the ponds required under Condition 3 must be closed immediately, and the spill remediated as soon as practicable.

15. The Landfill Development Management Plan required by General Condition 12 and Landfill Closure Management Plan required by General Condition 16 must include practices and procedures for the prevention of spills and specify contingency measures to be undertaken in the event that a spill takes place.

~~G~~F. Discharge Permit RM23-~~[insert consent number]~~.185.06

Discharge of Landfill Gas, Combustion Emissions from Landfill Gas Flares and Engines, and Dust and Odour and to Air conditions

Purpose of this consent: to discharge contaminants (landfill gas, combustion emissions from landfill gas flares and engines, dust and odour) to air for the purpose of the operation, closure, and aftercare of the Green Island Landfill.~~to discharge landfill gas, combustion emissions from landfill gas flares and engines, dust and odour to air for the purpose of the operation and closure of a Class 1 landfill.~~

Expiry~~ date~~: ~~this consent will expire on [insert date 35 years from issuing].~~ XX Month 2060

General

1. Under section 125 of the Resource Management Act 1991, this consent lapses five years after the date of issue of the consent unless:

   a) The consent is given effect to; or

   b) The Consent Authority extends the period after which the consent lapses.

   ~~This consent will lapse [insert date 5 years from issuing] unless given effect to before that date.~~

~~1.~~2. This consent is also subject to the general conditions listed in Schedule 1 – General Conditions and Attachment A-B of~~1 to~~ that Schedule. In the event of differences or conflict, between the general conditions and the conditions of this consent, the conditions of this consent prevail.

~~2.~~3. The Consent Holder shall adopt the best practicable option to avoid and/or mitigate any adverse effect on the environment resulting from the discharge of contaminants to air. This shall require that the Consent Holder operate, supervise and maintain the landfill and monitor the discharge so as to ensure that any adverse effect on the environment is avoided or mitigated.

~~3.~~4. There must be no ~~odour or dust beyond the boundary that is~~ noxious, dangerous, offensive or objectionable odour to the extent that it causes an adverse effect at or beyond the boundary of the site~~in the opinion of an authorised officer of the Otago Regional Council~~.

Advice note: The determination of an offensive or objectionable effect must take into account the FIDOL factors and be made based on the guidance provided in Section 4.1.1 and Table 6 of the Ministry for the Environment Good Practice Guide for Assessing and Managing Odour (2016) or Section 4.2.1 and Table 8 of the Ministry for the Environment Good Practice Guide for Assessing Dust (2016).

Odour

5. The Landfill Development Management Plan required by Ggeneral Ceondition 12 must include practices and procedures for odour management, including but not limited to management of the size of the active landfilling area, application of daily cover, use of odour suppression sprays and odour monitoring.

~~4.~~6. To minimise odour emissions during handling of highly odorous wastes the following measures must be implemented:

a) Deliveries of highly odorous wastes must be pre-booked, to ensure preparations are made including ensuring cover material is available at the pit location;

b) Where practicable, wastewater sludges, biosolids and screenings must be treated with stabilised lime or an alternative that performs to an equivalent or higher standard of treatment for odour, prior to delivery to the site, and loads must be confirmed by the commercial waste transporter as meeting this requirement with the Dunedin City Council at the time of pre-booking delivery;

c) Holding deliveries of unexpected highly odorous waste loads on site until preparations identified in (a) above are in place to enable disposal;

d) Prioritising deliveries of highly odorous wastes for disposal ahead of more general waste and loads and covering highly odorous wastes immediately to meet the requirements of Ggeneral Ceondition 31;

e) The Landfill Development Management Plan required by Ggeneral Ceondition 12 must include practices and procedures for the pre-acceptance, handling and placement of highly odorous wastes, including contingency measures in the event of an unexpected highly odorous waste load. This must include as a minimum requirement for prioritising the placement and covering of highly odorous waste as required by ~~condition 6(d)~~part (d) of this condition ~~of this consent~~ and using waste placement areas that maximise separation distances to receptors.

~~5.~~7. Any excavations carried out in the landfill must be done in such a manner as to minimise the generation of odour. The Landfill Development Management Plan required by Ggeneral Ceondition 12 must include practices and procedures for the management of excavations into old waste. In the event of offensive odour being generated or a complaint of odour from the public being received during an excavation procedure, the excavations mustch cease and the exposed refuse re-covered until such time as the wind conditions are more favourable.

~~6. Only vegetation shall be included in the waste to be composted as part of the pre-existing composting operation on the site. The composting operation shall be managed so as to minimise the production of odour by ensuring aerobic conditions are maintained at all times within the windrows.~~

Odour Monitoring

8. The Consent Holder must conduct odour field inspections to confirm the effectiveness of odour controls, or whether additional controls are needed.

a) The field inspections must be carried out by a representative of the Consent Holder who has been trained in undertaking field odour inspections by a suitably qualified and independent person.

b) The methodology for the field odour inspections should also include provision for detecting odours that may be indicative of subsurface landfill fires.

c) The field inspections must be carried out at least twice weekly at varying times of day when activities with the highest potential for odour emissions are occurring, or times when atmospheric conditions are least conducive to dispersion such as early mornings. The inspections must be conducted in accordance with a methodology set out in the LDMP.

d) If requested by Otago Regional Council following investigation of complaints received in relation to odour or following review of information provided in the Annual Report, or following Otago Regional Council's own independent monitoring, the Consent Holder shall engage a suitably qualified and independent person to monitor odour at the site boundary in accordance with a methodology and duration approved by Otago Regional Council.

e) The Consent Holder must investigate the cause of any odour detected by these odour field inspections and must remedy any faults identified as soon as practicable. A record of each field inspection must be recorded in writing, including weather conditions, the location of any odours identified, the intensity, duration and hedonic tone of any odours, and the findings of any investigation. This information must be provided to Otago Regional Council upon request and additionally as part of the Annual Report required by General Condition 62.

Dust

~~7.~~9. Effective measures must be implemented to minimise dust emissions to meet the requirements of C~~c~~ondition 4 of this consent. The Landfill Development Management Plan required by G~~g~~eneral C~~c~~ondition 12 must include practices and procedures for dust management, including but not limited to imposing vehicle speed limits within the landfill site, maintaining and grading of access tracks, water suppression of dust on unsealed tracks, cleaning of the site access and dampening of dust generating wastes.

Complaints

10. In addition to the requirements of General Condition 61, if a complaint is received by the Consent Holder relating to odour, the investigation and record to be made by the Consent Holder shall include:

a) The nature of the odour exposure detailed in the complaint, including (where made available by the complainant) time and date the odour was noticed, the duration of the odour, a description of the type of smell, and the intensity of the odour.

b) Weather conditions at the time of the odour exposure detailed in the complaint, including wind direction and wind speed;

c) Known activities occurring on site at the time of the odour exposure detailed in the complaint and over the preceding 24 hours; and

d) Any highly odorous wastes received at the time of the odour exposure detailed in the complaint and over the preceding 24 hours, the times of receipt, and the method of management and placement of those wastes.

Landfill gas collection and destruction system

~~10.~~11. The additional landfill gas (LFG) wells shown on drawing 12547621-C501 must:

a) Be installed progressively as soon as practicable as the placement of waste occurs in each stage, ~~such that no newly placed waste in any area is without landfill gas collection infrastructure for longer than three months~~ and no later than 2 years following the final acceptance of waste at the landfill; and

b) Be installed such that landfill gas is collected throughout the full vertical profile of placed waste; and

~~a) All landfill gas wells shown on drawing 12547621-C501 must be installed no later than six months following the final acceptance of waste at the landfill; and~~

c) Meet the minimum requirements of the WasteMINZ Technical Guidelines for Disposal to Land 2022 for a class 1 landfill; and

~~b)~~d) Be installed in accordance with the Landfill Gas Masterplan, prepared by Tonkin and Taylor, dated September 2023,and subsequent addendum dated May 2024 ~~.~~

Commented [SM17]: Applicant to speak to practicality of this timeline, which is for installation of LFG infrastructure, which is different from the connection of the LFG infrastructure in condition 14 below.
There is potential for streamlining/combining these two conditions.

~~8. The Consent Holder must commission a new enclosed landfill gas flare, with a capacity of no less than 1,000 m³/hour, within X months/years of the issue of this consent.~~

12. The Consent Holder must ensure that landfill gas treatment capacity is at all times sufficient to treat all captured landfill gas, even during periods of downtime of the flare/engine, and that treatment capacity takes into account the expected increase in landfill gas collection rates in the future.

~~11.~~13. Any LFG extraction wells must be connected to the gas extraction system as soon as practicable ~~and in any case not longer than three months~~ after placing wastes within the radius of influence of the wells, with care taken not to introduce oxygen into the waste mass. Passive flares with flame arresters within the landfill extent must be allowed to burn the gas venting from the wells prior to connection to the gas extraction system.

~~12.~~14. All LFG extracted from the gas extraction system must be combusted in gas to energy (GTE) engines and/or flares at the Green Island Wastewater Treatment Plant which meet the following requirements:

a) LFG engines and/or flares must be provided sufficient for the anticipated rate and quantity of LFG generated by the landfill.

b) Either the LFG engines or the flares must be operational at all times.

c) Any new LFG flare must be designed, installed, maintained, and operated to meet the requirements in Regulations 26 and 27(2) of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004.

~~13.~~15. The operation of the LFG collection and destruction system must be designed, constructed, operated and maintained to minimise potential oxygen ingress into the landfill waste (including to prevent the risk of sub-surface landfill fires) and maximise the rate of extraction of LFG.

~~14.~~16. There must be no visible emissions (excluding water vapour, visible flame, light or heat haze) from the LFG engine or new flares connected to the gas extraction system.

~~15.~~17. LFG gas flow rate (m^3/hr) must be continuously monitored at the inlet to the LFG engine and flares.

~~16.~~18. The following parameters must be monitored weekly at each LFG well head during operation, and bi-weekly following closure:

a) Gas pressure (mbar)
b) Gas flow rate (m^3/hr);
c) Composition (~~M~~methane (%v/v);), carbon dioxide (%v/v), oxygen (%v/v), carbon monoxide (ppm), hydrogen sulphide (ppm), and residual nitrogen (%v/v));
~~d) Carbon dioxide (%v/v);~~
~~e) Oxygen (%v/v);~~
~~f)~~d) Gas t~~T~~emperature (°~~θ~~C);
~~g)~~e) ~~Carbon monoxide (ppm~~Ambient temperature ~~)~~ (°C);
~~h)~~f) ~~Residual nitrogen (%v/v).~~Barometric pressure (mbar)

~~17.~~19. On-site standby electrical supply must be provided to ensure the operation of any landfill gas flare equipment is not interrupted through loss of mains power supply.

~~18.~~20. The LFG collection and destruction system must be maintained to enable ongoing operation at all times and restored as soon as practicable in the event of a malfunction or fault.

~~19.~~21. The Landfill Development Management Plan required under General Condition 12 and Landfill Closure Management Plan required under General Condition 16 must include practices and procedures prepared by a suitably qualified person to ensure:

a) LFG is collected and destroyed;
b) The escape of fugitive LFG and any potential exposure of people to LFG or LFG related odour is minimised;
c) Risk of landfill fires is prevented as far as practicable; and.
d) Achievement of the conditions of this consent.

~~20.~~22. As a minimum the LFG management practices and procedures of the Landfill Development Management Plan and Landfill Closure Management Plan must include the following:

a) Estimates of LFG generation and recovery for the landfill, including method, assumptions and results;
b) Description of the design of the LFG collection and destruction system, including wells, laterals, manifolds, engine and flare system and the staging and timing of the installation of those components;
c) Operation and maintenance procedures for the LFG collection and destruction system, including operating criteria and parameters, system monitoring plan (parameters, frequencies, locations) trigger levels for relevant parameters including methane, carbon dioxide, oxygen, and carbon monoxide, response actions for trigger level exceedances, system operation and adjustment and system maintenance;
d) LFG perimeter and surface monitoring locations, parameters, frequencies, trigger levels and methodology for each monitoring location and monitoring parameter, including contingency response procedures in the event of trigger level exceedance. As a

minimum this must address the monitoring requirements in Cconditions 242 – 32325 of this consent; and

e) Record keeping and reporting requirements.

Landfill gas perimeter and surface monitoring

21.23. The existing landfill gas (LFG) monitoring wells shown on drawing 12547621-C501 (GHD, 2023)[insert drawing number showing all monitoring locations], and any new wells proposed as part of this application, must be maintained on site to enable detection of LFG escaping laterally from the landfill.

9.24. All monitoring wells must be maintained to enable ongoing monitoring. In the event of a bore being destroyed or unsuitable for sampling, the Consent Holder must replace it with a bore in the same general location within 3 months.

10. Within three years of the issue of this consent, the Consent Holder must review and update the Landfill Gas Risk Assessment to include a more robust data set, which must include at least three years of data covering:

a) Details of landfill gas well monitoring methodology and equipment; and

b) Additional landfill gas monitoring parameters, including:

i. Landfill gas well flow rate;

ii. Relative pressure;

iii. Depth of groundwater in the well;

iv. Atmospheric pressure trend;

v. Fugitive emissions; and

c) An assessment of the validity of the landfill gas monitoring data, including consideration of equipment calibration, equipment operation in the field (e.g. zeroing transducers), peak and stabilised readings, details and suitability of bore construction and integrity; and

d) Figures showing the location of landfill gas wells and all relevant receptors, both onsite and offsite; and

e) A conceptual site model that articulates the landfill gas migration pathways and receptors.

22.25. The Landfill Development Management Plan under General Condition 12 and Landfill Closure Management Plan under General Condition 16 must include practices and procedures for the long-term monitoring of LFG emissions during operation to achieve the following:

a) Identify potential escape of fugitive LFG to the environment at or near source to confirm the efficacy of the LFG management system or need for remedial actions;

b) Protection of the health and safety of people on and beyond the site who may be at risk of being exposed to LFG emissions; and

c) As far as practicable prevent and identify any landfill fires that occur.

11.26. The concentration of methane measured at the surface of the landfill areas within intermediate or permanent final capping must not exceed 15,000 parts of methane per million parts of air (ppm) in any single location.

~~12.~~27. During operation, closure, and aftercare of the landfill, a Flame Ionisation Detector (FID) or equivalent must be used to carry out surface emissions monitoring for methane over the entire surface of the landfill on at least a 30 m by 30 m grid basis excluding the working face at least once every three months on areas with final cover, reducing to six-monthly after five years of landfill closure, and at least once every month on areas with thickened daily cover or intermediate cover. The results must be reported annually to Te Rūnanga o Ōtākou and Otago Regional Council in accordance with General Condition 62.

~~24. LFG concentrations over the surface of the landfill must be monitored at least monthly at areas of intermediate cover and the surface of the final landfill cap, with such monitoring to be undertaken with a Flame Ionisation Detector or equivalent in accordance with the Landfill Gas Fugitive Emissions Monitoring Guideline, prepared by the Environment Protection Authority, Victoria, Australia, February 2018 and subsequent versions, or an alternative methodology approved in writing by the Otago Regional Council. Monitoring must not be undertaken immediately following heavy rainfall or during strong wind speed. During closure and aftercare phases, the monitoring can reduce to at least quarterly, as follows:~~

~~a) At least monthly at the LFG monitoring wells; and~~

~~b) At least quarterly at areas of intermediate cover and the surface of the final landfill cap, with such monitoring to be undertaken with a Flame Ionisation Detector or equivalent. Monitoring must not be undertaken immediately following heavy rainfall or during strong wind speed.~~

~~The results must be reported annually to Te Rūnanga o Ōtākou and Otago Regional Council in accordance with General Condition 585.~~

Advice Note – Favourable metrological conditions for methane surface monitoring include those where weather and ground conditions are dry with less than 0.5 millimetres of rain having fallen for at least two days, and instantaneous wind speed is less than 25km/hr (ideally 5 – 10km/hr). Monitoring of surface emissions and subsurface geology must also target falling or low atmospheric conditions.

28. Following a significant rain event of 130mm/24 hour, the Consent Holder must undertake daily walkovers for 3 consecutive days. Any evidence of actual or potential landfill gas leaks such as odour, cracks in the landfills surface, gas bubbles, leaks in the gas extraction system or vegetation damage or evidence of leachate seeps must be investigated.

29. If monitoring carried out in accordance with Condition 27 demonstrates that the surface methane gas concentration limit specified in Condition 26 is exceeded, then remedial action shall be carried out and the concentrations re-tested within ~~7~~ 14 days. If this is not practicable, the Consent Holder shall obtain the approval of the Otago Regional Council for a proposed programme of remedial action, including a timetable, within 7 days of the exceedance. The proposed programme shall be implemented to the satisfaction of the Otago Regional Council within the proposed time period.

30. ~~Where surface methane is detected at more than 500 and less than 1,000 ppm during any surface gas survey, the Consent Holder shall investigate the reasons why, and shall take remedial action to reduce the landfill gas emissions.~~

31. The results of surface methane emission monitoring described in Condition 27 and any remediation work carried out described in Condition 29 shall be included in the Annual ~~Monitoring~~ Report required by General Condition 62.

Review of odour management

32. The Consent Holder shall engage a suitably qualified independent consultant experienced in landfill gas and odour management to annually:
    a) Review all odour complaints received for the Green Island Landfill and Resource Recovery Park (RRP) over the past 12 months ~~two years, or before if it is relevant to do so.~~
    b) Review the results of odour field inspections undertaken.
    c) Review the Consent Holder's response to odour complaints.
    d) Review any information provided by the CLG to the Consent Holder, as it relates to odour matters.
    e) Review the odour management practices for the landfill including (but not limited to) waste acceptance and placement, handling of highly odorous wastes, the size and management of the open tipping face, placement of intermediate cover (including extent, physical nature and thickness), and the extent and operation of the landfill gas management system.
    f) Recommend any changes to odour management practices at the landfill cell and recommended timeframes for undertaking the work.
    g) Recommend any changes to the method or frequency of odour field inspections.
    h) The findings and any recommendations arising from each review shall be detailed in a report. The Consent Holder shall provide Otago Regional Council and the CLG with a copy of the report and the Consent Holder's response to any recommendations within one month of receiving the report from the independent reviewer.

Landfill gas/biogas combustion

33. The concentration of hydrogen sulphide combusted in the primary flare and/or the biogas engine at the Green Island Wastewater Treatment Plant must not exceed 500 ppm.

34. The Consent Holder shall monitor the following parameters at the primary flare and biogas engine used to combust LFG from the landfill:
    a) Gas flow rate as an hourly average (m^3/h)
    b) Hydrogen sulphide concentration (ppm) - monitored on a weekly basis using a landfill gas analyser ~~as an hourly average~~.

35. Monitoring results from Conditions 33 and 34 shall be included in the Annual ~~Monitoring~~ Report required by Condition 62.

HG. Land Use Consent RM23 [insert consent number].185.07

Placement of Defence Against Water Land Use Conditions

Purpose of this consent: to place a defence against water between the landfill and Kaikorai Stream for the purpose of diverting floodwaters for the operation, closure, and aftercare of the Green Island Landfill. **to place a defence against water between the landfill and Kaikorai Stream for the purpose of diverting of floodwaters for the operation and closure of a Class 1 landfill.**

Expiry date: this consent will expire on [insert date 35 years from issuing]. Unlimited term

General

1. Under section 125 of the Resource Management Act 1991, this consent lapses five years after the date of issue of the consent unless:

   a) The consent is given effect to; or

   b) The Consent Authority extends the period after which the consent lapses.

This consent will lapse [insert date 5 years from issuing] unless given effect to before that date

1.2. This consent is also subject to the relevant general conditions listed in Schedule 1 – General Conditions and Attachments A-B of that schedule. In the event of differences or conflict, between the general conditions and the conditions of this consent, the conditions of this consent prevail.

Placement of Defence Against Water

2.3. Raising of the berm of the existing landfill permitter road between the Kaikorai Stream and leachate collection trench by 1 metre to minimise the risk of inundation by flood waters must be completed at least 6 months prior to the final acceptance of waste at the landfill.

3.4. Construction of the works listed in Ceondition 3 must:

a) Be managed to ensure effects on slope stability and generation of odour and dust are minimised.
b) Implement an accidental discovery protocol to manage effects on any undiscovered archaeological sites
c) Ensure any waste or soil material that is removed is transferred and disposed of in the active landfilling area.
d) Ensure any dewatering water from excavations is directed to the leachate collection trench for disposal.

4.5. Any stormwater diversions and discharges, air discharges, and disturbance of contaminated land associated with the placement of the defence against water must comply with the conditions of resource consents RM23.185.05, 06, and 08 [insert numbers].

I~~H~~. Land Use Consent RM23.185.08 ~~[insert consent number]~~

Disturbance of Contaminated Site Land Use Conditions

Purpose~~s~~ of this consent: to disturb land at a contaminated site for undertaking capping works and for the installation and maintenance of landfill infrastructure for the purpose of the operation, closure, and aftercare of the Green Island Landfill.~~**to disturb land at a contaminated site for undertaking capping works and landfill infrastructure for the purpose of the operation and closure of a landfill.**~~

Expiry ~~date~~: ~~this consent will expire on [insert date 35 years from issuing].~~XX Month 2060

General

1. Under section 125 of the Resource Management Act 1991, this consent lapses five years after the date of issue of the consent unless:

   a) The consent is given effect to; or

   b) The Consent Authority extends the period after which the consent lapses.

   ~~This consent will lapse [insert date 5 years from issuing] unless given effect to before that date~~

~~1.~~2. This consent is also subject to the relevant general conditions listed in Schedule 1 – General Conditions and Attachment~~s~~ A-B ~~to~~of that Schedule. In the event of differences or conflict, between the general conditions and the conditions of this consent, the conditions of this consent prevail.

Disturbance of Contaminated Land

~~2.~~3. All areas of contaminated land disturbance, including but not limited to the disturbance of landfill waste material, must be designed and managed that any overland stormwater flow and stormwater infiltration to land is captured and discharged into the leachate collection system.

~~3.~~4. Any stormwater diversions and discharges, and air discharges associated with the disturbance of contaminated land must comply with the conditions of this consent, as well as resource consents RM23.185.05 and RM23.185.06 ~~[insert numbers~~].

Appendix X. Site details

Green Island Landfill Site (as defined by the existing designation in the Proposed Second Generation Dunedin City District Plan)

Site	Legal Description	Record of Title	Area	Owner
9 Brighton Road	Part Section 45-47 Green Island Bush Survey District and Section 54 and 63 Block VII and Section 119 Block VII Dunedin & East Taieri Survey District	OT11B/1241	41.8120 hectares	Dunedin City Council
9 Brighton Road	Part Section 45-47 Green Island Bush Survey District	OT368/19	1.0841 hectares	
9 Brighton Road	Section 1 Survey Office Plan 24047	OT15C/1016	4718 square metres	
9 Brighton Road	Lot 6-7 Deposited Plan 572543 and Section 1 Survey Office Plan 24040	1040235	4464 square metres	
9 Brighton Road	Part Section 120 Dunedin & East Taieri Survey District and Part Section 53 Block VII Dunedin & East Taieri Survey District and Closed Road intersecting Sections 86,87,98,102 and 103 Block V Lower Kaikorai Survey District	OT16D/1193	4.0211 hectares	

9 Brighton Road	Section 103 Block V Lower Kaikorai Survey District and Part Section 85-87, 98 Block V and Part Section 99-101 Block V and Part Section 102 Block V Lower Kaikorai Survey District	OT16D/1194	5.5726 hectares	
9 Brighton Road	Lot 2, 4 Deposited Plan 572543 and Lot 1 Deposited Plan 20826	1040233	1837 square metres	
114 Brighton Road	Part Section 38-40, Part Section 44 and Part Section 156 Green Island Bush Survey District	OT7C/934	8.2303 hectares	
140 Brighton Road	Part Lot 4 Deposited Plan 4550	OT12C/261	10.4655 hectares	
170 Brighton Road	Lot 1 Deposited Plan 20582	OT12C/262	4.2766 hectares	
170 Brighton Road	Section 81 Block VII Dunedin & East Taieri Survey District	OT15A/266	4401 square metres	
Total Area			75.6164 hectares	

Green Island Wastewater Treatment Plan Site (location of LFG engine and flare):

Site	Legal Description	Record of Title	Size of entire property	Owner
9 Brighton Road	Section 55 and 65 Block VII Dunedin & East Taieri Survey District	OT11B/1241	7.2122 hectares	Dunedin City Council
9 Brighton Road	Lot 30 Deposited Plan 24758	OT16C/1083	3.7127 hectares	
174 Brighton Road	Part Section 48 Deposited Plan 2323	OT166/158	2.1102 hectares	
174 Brighton Road	Lot 1 Deposited Plan 22230	OT14C/1027	7.1854 hectares	
Total Area			20.2205 hectares	