

Our Reference: A1776670

File: RM23.185

3 May 2023

Via email to: rachael.eaton@boffamiskell.co.nz and chris.henderon@dcc.govt.nz

Dear Rachael and Chris,

Request for further information under section 92(1) of the Resource Management Act 1991 (the Act) – Consent Application Number RM23.185.01-08

Thank you for your application to undertake various activities associated with the operation, expansion and closure of the Green Island Landfill.

An initial assessment of your application has been made by myself, Jacobs Consulting and 4Sight Consulting (Part of SLR) who are providing technical audits of the application. To be able to make a full assessment of the application, I request the following information under section 92(1) of the Resource Management Act (the Act).

Planning Matters

1. Consent has been applied for under provision 45B of the National Environmental Standards for Freshwater (NES-FW) for multiple activities. Provision 6 of this rule states:

A resource consent for a discretionary activity under this regulation must not be granted unless the consent authority has first—

(a) satisfied itself that the landfill or cleanfill area—

(i) will provide significant national or regional benefits; or

and

(b) satisfied itself that—

(i) there is no practicable alternative location for the landfill or clean-fill area in the region; or

(ii) every other practicable alternative location in the region would have equal or greater adverse effects on a natural inland wetland; and

(c) applied the effects management hierarchy.

Please provide a comprehensive assessment on the matters outlined in 45B(6) to provide sufficient evidence for Council to justify granting consent.

2. *Section 8.9.1 of the AEE states:*

“Ongoing earthworks and construction of the final landfill cap may result in sediment discharges to Kaikorai Stream and Kaikorai Estuary, which could lead to sedimentation of habitats and an increase in mud content within the estuary.”

Please provide further details on what type of sediment discharges are anticipated to occur (e.g. dust or contaminants) and update the rule assessment to reflect any consent requirements or permitted activity rules that can be met for this activity.

The following information is required in order to understand the technical components of the application in order to assess the actual and potential effects of the activity to inform a notification decision.

Geotechnical

3. Please provide a copy of the interpretations of the geotechnical field and lab test data which determined the design values used in the stability analysis.
4. Please provide a copy of the raw data from the field investigations (CPT) and laboratory test results.

Landfill Design and Management

Landfill over, Cap Design and Surface Water Management

5. Drawing G102 appears to show surface water flow on the final capped area going into the Northern Leachate Pond. Please confirm if surface water is being mixed with Leachate.
6. The landfill design drawings attached to the design report show areas of the cap have 2% fall. WasteMINZ recommends a minimum of 1:20 gradient (i.e. 5%). Is there potential for differential settlement in these areas, and could it result in surface water pooling at the surface and increasing the potential for surface water infiltration and leachate generation?
7. It is noted that the design report refers to a gradient of 4.5% for the cap. Where is the cap a 4.5% grade. Is that the average grade, or specific parts of the landfill?
8. The landfill cap layers proposed from top down are topsoil/subsoil (350mm), compacted clay (600 mm), intermediate cap (300mm) and waste. Please confirm if the designer is satisfied that this addresses the requirements of WasteMINZ PDF pages 96 and 97 in relation to using geosynthetics where a cap is designed to prevent water infiltration, and the associated minimum thickness of subsoil layers of 500 mm for class 1 landfills.
9. The site inspection identified that vegetation has not taken hold in newly capped areas. Please describe how this is being managed (e.g. replanting, revised design other?), and confirm whether this affects the proposed capping layout for future capped areas?
10. Some areas of cap have 1:3 slope. Please provide confirmation as to whether it is possible for topsoil to remain in place, and for vegetation to take hold on these slopes.
11. Section 4.4.2 of design report refers to the entire void potentially not being used for waste. Please detail whether this will change the landfill cap profile (i.e. steeper or shallower grades) or if the intention is for other material be imported to site or recovered from borrow area to make up the shortfall?
12. On drawing C304, is the label for "Intermediate cover" located on the correct layer?
13. Section 6.1 refers to a "soil base layer". Please confirm what layer is this referring to.
14. Section 6.2 of design report refers to compacting clay in layers not less than 300 millimeters. Please confirm which layer this is referring to.

15. Please confirm if there is a maximum thickness value for the layers mentioned in questions 12-14 to ensure compaction is achieved throughout the relevant cap layer.
16. Section 6.2 states cover graded to the stormwater system to allow runoff of uncontaminated water and reduction in leachate volumes. Confirm which soil layer this is referring to, noting that section 4.4.2.2 of design report and section 3.5.2.3 of the Landfill Design Management Plan (LDMP) indicate that water coming into contact with intermediate cover is leachate, and section 3.5.2.3 of LDMP implies that only water off final cap can be treated as clean.
17. Please provide clarity on the timing of placing intermediate cover, and the timing of topsoiling intermediate cover, noting that;
 - Section 4.3.4 of LDMP states that intermediate cover will be topsoiled at earliest opportunity;
 - Section 4.11.1.6 says if waste not expected to be placed for 3 months then another layer of daily cover will be applied;
 - section 4.11.2 says intermediate cover will be placed on areas not being worked for 6 months; and
 - section 4.11.2 says surfaces exposed for more than 3 months will be topsoiled and grassed.
18. Section 4.10.1 of LDMP refers to primary cover. Please clarify what “primary cover” is.
19. Section 4.11.3.2 of LDMP refers to cap being subject of “approval by Engineer”. And section 4.11.3.7 rules out permeability testing on the cap.
 - a) Confirm who is the engineer being referred to here - is it the design engineer?
 - b) Confirm if the cap will be subject to detailed design which would detail CQA testing.
20. Section 4.11.3.8 states that services not installed closer than 0.3 m above the base of the final cover clay layer.
 - a) Please confirm if 0.3m above the base of the clay cover layer will be in the middle of the clay cover layer?
 - b) Does the above mean the pipes will be in the compacted clay layer?
 - c) Could this inhibit the performance of the capping system? Will the pipes be able to withstand the compactive force from cap construction?
21. Has the capacity of the stormwater infrastructure onsite been assessed, noting that stormwater runoff volumes would presumably increase as the area of capping increases? If so, please provide this assessment.

Leachate and Groundwater

22. Section 3.3 of LDMP refers to maintaining a groundwater divide by engineered groundwater control adjacent to landfill footprint. Please confirm if this is the leachate collection trench, or a separate system? If it is separate, please explain what this system is and provide plans showing this.
23. The leachate mounding within the waste mass appears to be significant, which does not appear to be reduced by the leachate interception system on the landfill boundary. Please provide commentary on whether there is a strategy to try and reduce this to a lower level, in an effort to reduce potential for leachate breakout, leakage into underlying aquifer, flooding of LFG system etc.

24. Section 3.4.1 of Design report refers to a HDPE sheet placed on the outer face of leachate collection trench, however report figure 14 doesn't clearly show the exact extent of the HDPE liner.
- Please clarify exactly where it is located onsite and where on the trench it is located (i.e. just on one wall).
 - Please provide any further details on these HDPE sheet (i.e. is it an effective barrier, how was it installed, is it welded at joins, was there any quality assurance during construction etc.).
 - Some of the reports indicate that the leachate trench allows inflow of groundwater. Please confirm if this is the case, and if so, the function of the HDPE sheet.
25. The flow rates from the leachate extraction trench appear to the technical auditor to be relatively low at an average of 1 to 2 L/s. Please provide comment on if this is what is expected based on the modelled leachate generation rates and potential groundwater inflow?
26. The leachate collection system (LCS) is shown on a number of drawings and with other information about the site shown, it makes it difficult to fully understand the existing and proposed LCS layout. Please provide drawings that clearly show the leachate collection system (both existing and proposed) without other non-leachate collection system details (e.g. contours) for a clearer understanding.
27. It is noted that the drawings and design report include a variety of terms that seem to be related to the LCS. It appears that some terms may be interchangeable which is confusing for the reader. Please provide updated drawings which use consistent terminology across the drawings and the design report. Some examples of the terms on the drawings legends are;
- Dwg G101:
 - Existing leachate drain; and
 - Existing leachate drain in waste;
 - G102:
 - Existing leachate drain;
 - Existing leachate drain in waste;
 - Pipe flow;
 - Interception trench;
 - Southern interception trench; and
 - Extent of new leachate collection system.
 - C204:
 - Extent of leachate collection system;
 - Primary leachate collection drain;
 - Leachate drainage pipe;
 - Existing leachate drain in waste;
 - Existing leachate drain perimeter; and
 - Interception trench (new).
 - C304:
 - Section detail of primary leachate drain;
 - Interception trench detail;
 - Primary leachate drain detail;
 - Design report terms;
 - Leachate ByPass drain; and
 - Open swale drain.

28. Section 4.4.2.4 of design report refers to a leachate bypass drain that has impacted surface water. It is not entirely clear what has occurred and what the remedial measures are (if any). Please clearly detail what the problem is and what further investigations are needed to be able to confirm remedial works. Please also advise on timing of any further investigations/remediation.
29. Section 4.4.5.4 says that LFG wells will be used to control leachate levels, and Section 4.4. indicates that the operator *may* use LFG wells to manage leachate levels. Please confirm if the LFG wells will be used for leachate management.
30. Furthermore section 6.1 refers to infrastructure for air operated leachate pumps in gas wells. Please provide full details of what infrastructure is proposed and where, and what the intent of the infrastructure will be e.g. to reduce leachate levels to specific target levels.
31. Section 4.4.5.4 of design report refers to measures to address seismic hazard. What is the proposed timing of these works?
32. Section 4.4.1 provides definitions of leachate. What is the definition of stormwater that runs off the intermediate cap? Is that leachate, and if so, should it be included in this definition also?
33. Section 4.4.1 refers to perforated leachate drains in the waste. What is the design of these leachate pipes e.g. can they withstand overlying waste and associated compaction effort?
34. Section 4.6 refers to leachate migrating through the ground from the composting area.
 - a) Is the compost area above waste?
 - b) Is there an opportunity to collect leachate from this area directly to avoid potential subsurface migration/impacts?

Landfill Gas

35. Drawing C501 appears to show some Landfill gas wells (LFG) wells on the 1:3 sloped area of the cap in the south west area of the landfill (e.g. Wells GW90, GW91 etc.).
 - a) Provide comment on whether it will be possible to safely install and operate wells at these locations?
 - b) Provide comment on whether these wells will be more susceptible to differential settlement and potential damage due to the steep slope?
36. Design report states that LFG collection averages 251 m³ /hr, compared to estimated generation rates of over 800 m³ /hr in 2021 and 2022, and estimated LFG collection rates of 648 m³/hr and 666 m³/hr in 2021 and 2022 respectively.
 - a) Is there a reason for this large discrepancy?
 - b) Has consideration been given to attempting to improve the collection efficiency?
37. The capacity of the LFG treatment system seems to be 800 m³ /hr if both the engine and flare are operating at full capacity. This is below the peak LFG generation rate estimated via LFG modelling, although it is above the maximum modelled capture rate of 745 m³ /hr (section 3.3 of LFG Masterplan in Appendix C of design report).

If LFG collection efficiency increases, is there potential for a short fall in LFG treatment capacity noting that the WWTP contributes biogas to the engine, and the engine seems to have been down for significant periods in the previous financial year

(approx. 1 month in March April 2022; and other periods of a week or more) meaning only the candlestick flare is operating at times.

38. The LFG model from 2021 (T&T) refers to the landfill closing in 2026. However, the Design report and LDMP indicate that the landfill will operate longer. It is also noted that the design report estimated the void space available for waste filling based on June 2022 data (which is later than the LFG model).
 - a) Are the LFG model generation rates representative of the landfill life and tonnages proposed in the LDMP and design report?
 - b) If not, provide comment on what the impact the capacity of the LFG treatment system (as per above).
39. Section 3.5.3 of design report states: *“it is not considered likely that concentrations of CO2 in the gas wells pose a risk”*.
 - a) Provide an explanation on what “risk” is being referred to here, and why is it considered low.
 - b) Please confirm if this statement based on a LFG risk assessment, conceptual site model or some other assessment.
40. Section 4.5.1 refers to horizontal LFG collection pipes.
 - a) Please confirm if these are collection pipes (perforated) or transmission pipes (e.g. header pipes).
 - b) Provide comment on whether temporary horizontal LFG collection wells been considered in the active cells to enable LFG collection prior to installation of vertical LFG wells.
41. Provide details on the vertical LFG collection pipes including but not limited to the diameter, bore annulus and backfill, depth relative to the waste mass and unsaturated length of well screen.
42. Section 2.5.2 of LFG Masterplan (app C of Design report) states that flaring is not the primary LFG treatment method, so NES Air Quality requirements relating to flares do not apply. It is assumed this is a reference to Regulation 27 which requires that if flaring is the primary treatment method, then a candlestick flare can be a backup flare only, and not the primary flare.
 - a) Please provide the treatment volumes of the LFG engine and the candlestick flare to assess which is the primary treatment method.
 - b) If LFG treatment efficiency increases (refer earlier questions), is the engine capable of being the primary treatment method?
43. Please provide reasoning for downtime of LFG engine in previous financial year, and if this is expected to be a regular occurrence.
44. As per WasteMINZ Technical Guidance, the objectives of LFG systems should be to reduce LFG hazards, minimise odour and minimise greenhouse gas emissions. Has the effectiveness of the LFG system at achieving these objectives been assessed (e.g. through monitoring, development of CSM, LFG risk assessment)?
45. It appears there are existing LFG wells in areas that are not yet filled and capped.
 - a) Provide comment on how these will be managed when works are occurring around them.
 - b) Provide comment on how these will be maintained during works including but not limited to how they will be extended higher as required and replaced as needed.

46. Please provide more detail on the staging of installation of future LFG wells, particularly noting that the landfill may operate for some years yet. Provide specific comment on whether there will be large areas of the landfill not extracting LFG due to the active filling and capping delaying LFG well installation.

Landfill design life

47. Section 4 of design report includes densities for waste material. Provide comment on the basis of the densities selected for the waste materials including whether this is based on published data, site specific or other.
48. Section 3.4 of LDMP and section 4.4.2 of Design Report differ on landfill life remaining. Please clarify which estimate is relevant for the landfill, particularly noting the low estimate of landfill life in the design report is still higher than the LDMP.

Landscape and Visual Amenity

Further graphics/ annotation

49. Please provide and reference (in the assessment) photographs taken from within the site to demonstrate the comparative existing landscape character, and as a relevant basis for effects discussion. These should also illustrate reciprocal views to relevant surrounding locations.
50. Photographs and graphics should set out the existing and proposed extent of the borrow pit area, with accompanying reference in text (Figure 7 - Staging Plan does not clarify this point). Please amend to incorporate extents of the borrow pit.
51. Figure 1 (graphic supplement) does not illustrate the access route into the site (or other key roads) as stated at page 13. Please add these in, aligning with assessment descriptions.
52. Please provide a visual simulation for Viewing Location E, noted in the assessment as having higher visual effects than locations A and B from where simulations are provided.
53. Figure 3 - Topography Plan (of the graphics supplement) requires annotation of landscape features as described in text, p. 16-17. For clarity, please also provide LIDAR contours (or similar) for the surrounds illustrating comparative information for the landscape setting. The technical auditor notes the final contours shown on Fig 3 within the assessment, however this is too small to view of the surrounding area.
54. Figure 4 – Illustrative Cross Section (within the assessment) lacks horizontal dimensions, please provide these for greater clarity.

Viewing Locations

55. Some relevant views from dwellings are closer to the site than their representative public viewpoints provided. Further focus has been given in relation to Clariton Avenue properties. Please provide further consideration in relation to other Viewing Areas/Locations. As observed while visiting the site and surrounds, this is particularly sought for properties in the vicinity of Blanc Ave, Wavy Knowes Drive and Paterson Street (and roads just above). ZTV analysis may be necessary to address the viewshed more broadly, and through development stages.

General Questions

56. 'The Vegetation Management and Restoration Plan' is referenced in the text as both being proposed and recommended. Please provide a copy of this document to ascertain its effectiveness for mitigation and enhancement.
57. a) Please provide a concluding statement on the appropriateness of the application to be integrated into this landscape setting (with reference to Te Tangi a te Manu).
b) Please clarify the concluded finding on landscape effects, described as limited.
58. In the assessment Figure 5 does not show extent of zoning (as set out in accompanying text); zoning is illustrated by Fig 2 of the supplement. Please provide an updated figure.

Surface Water Quality

59. Please provide an updated site plan that accurately shows the watercourses on-site. There was a water course near the Kaikorai estuary that wasn't mapped or mentioned in the Surface Water Report.
60. Please provide a comparison on how contamination levels in the standing water within the wetland area (see yellow polygon in figure attached as Appendix 1) compare with sediment and leachate pond contaminant levels?

Groundwater

General Questions

61. The Groundwater report is currently silent on whether there are neighbouring groundwater wells, or use of groundwater in the general area. Please provide commentary on this including commentary on nearby drinking water sources.
62. Please provide an assessment of local groundwater flow direction/contours, this needs to extend to beyond the site boundary.
63. Please provide a groundwater monitoring well location map with the location of all monitoring wells clearly marked (including MW9D (lost well)).
64. Please provide monitoring well construction details and bore logs. This will allow an assessment of whether the monitoring wells are fit for purpose.
65. Please confirm that full historical monitoring well analytical data is provided. Some data is provided in graphical form in Appendix F Green Island Isotope Report within the Surface Water Technical Report.
66. Historical aerials (1943, 1947) show channels in the tidal flats beneath the present-day landfill. There is a potential for former channels to function of preferential pathways beneath the landfill. These historic channels appeared to flow into Kaikorai Stream in the SW corner of the site, close to the present-day Western Sedimentation ponds. Is the downgradient groundwater quality monitoring outside of the landfill footprint in this area?
67. Provide location of former Kaikorai Stream channel which was within the landfill footprint and advise which (if any) monitoring wells cover off this channel and comment on whether it has been considered as a potential leachate pathway and assessed accordingly through the leachate collection system.

68. Please provide detailed information on how the liner is installed into the trench in such a way that allows ingress only on one side.
69. Section 3.1 Conceptual Model refers to the presence of an upward hydraulic gradient in the Abbotsford Mudstone. Please provide direction to the data that supports this statement.

Incorporating Climate Change into the AEE

70. The HELP model appears to include just present-day rainfall.
- a) Please provide commentary on the likely effects of climate change on precipitation, infiltration and leachate generation.
 - b) Please provide appropriate climate change scenarios, or justification why they should not be included.
71. The seep/W modelling considers a 0.5m sea level rise scenario but appears to use input from present day rainfall totals. Please provide commentary on the adequacy of this assessment, or an updated assessment.
72. Consideration of climate change impacts on leachate generation, sea levels, storm surge and groundwater levels is important. Generally, an assessment should be made in alignment with the National Climate Change Risk Assessment (NZZRA) or local frameworks. Please provide commentary on whether the current assessment of climate change risk on the landfill is in accordance with this, and if not please provide updated assessments.

Groundwater Quality

73. Section 2.2 (Leachate Management) states that the leachate trench intersects contaminated groundwater seeping from the site. GWQ Monitoring in the D 'Deep' wells indicates that leachate indicators (NH₄N, As, Fe, B) are present beyond the leachate trench, indicating the potential that trench does not intersect all groundwater. Can you please:
- a) Provide an estimate of the groundwater flux moving beyond (below?) the leachate trench.
 - b) Provide commentary on likely contaminant loads to the estuary/river.
74. The PFAS Section 2.5.3.3 suggest that PFAS is not migrating beyond the leachate trench yet there are positive Total PFAS concentrations in C & D wells. If this is not from the landfill please provide comment on what is the likely source?

Leachate Generation and Control

75. Appendix F of the Groundwater assessment provides a useful summary of the HELP modelling. This modelling provides an estimate of percolation of precipitation into the waste. Please provide commentary on how this estimate compares to the measured leachate volumes extracted from the leachate drain.

Flood Defence Works

76. Section 5.2 of the Surface Water Report refers to a desktop assessment that was carried out to support the assessment of effects of increasing the perimeter road/bund on flood levels. Please provide a copy of this assessment so that the estimated increases in flood depth reported can be verified.

Ecology

77. Please provide an ecological site features plan that clearly shows the ecological areas on the site including ecosystem types and all water bodies within the designation. There were water bodies observed on site that were not identified on any of the plans provided or in the ecological report.
78. Please provide a plan that shows the location of the Area of Significant Conservation Value in the DCC 2GP and Regionally Significant Wetland by ORC in relation to the site. If there are plans that show the delineated edge of the wetland in relation to the site this would also be useful.
79. Please provide an updated ecological report to align with plans requested above (questions 77 and 78).
80. A Vegetation Management and Restoration Plan has been proposed as a condition of consent. Due to the overall impacts associated with the landfill (historic, current and proposed) a draft plan should be provided in advance of the application approval for review. A final plan could then be conditioned to allow for the finalisation of the plan in consultation with key stakeholders following granting of consent. In addition to the items listed for inclusion in the plan consideration of any potential works staging, both animal and pest control methodologies and maintenance timeframes should be included.

Air Quality

General

81. Section 1.2 of the Air Quality Impact Assessment states the scope included review of the instantaneous surface monitoring (ISM) data. Please outline where this is discussed in the Air Quality Assessment.
82. Please confirm if the reference to NSW OEH (2011) in Section 4.4.3 of the Air Quality Impact Assessment is correct.
83. Page 11 of the Air Quality Assessment includes a statement that the document is in draft form. Please confirm that this figure (Figure 2.4) is the final version and can be relied upon.

Sensitive receptors

84. At the site visit, at least two residential properties owned by Dunedin City Council were identified close to the landfill within the landfill designation area. Please include these houses as sensitive receptors in the combustion gas air quality impact assessment.

On-site meteorological data

85. a) Please specify the make and model of the wind sensor installed at the site, and the method of data averaging used.
b) Please provide raw data from the monitor in electronic format.

Meteorological analysis

86. In Figure 2.4 of the Air Quality Assessment, the prevailing wind direction at the Dunedin Aero site is different to both North Taieri and Green Island. Please provide further discussion of the reason for this difference, including providing comparative wind roses for the same data periods.

87. Please provide further justification on the suitability of using the Dunedin Aero site for modelling inputs, given the differences in topography at the two locations – particularly for longer term pollutant dispersion averages (24 hours and annual).

Model Selection

88. Please justify the selection of AERMOD as the dispersion model, given the complex terrain near the Green Island Waste Water Treatment Plant (GIWWTP).

ARMET set-up

89. Please confirm how the surface characteristics were established?
90. Please detail how the upper air data was incorporated into the ARMET files?
91. Please provide an electronic copy of all ARMET model input files.

AERMOD set-up

92. The emission temperatures for the engine and flare are very high, please justify these selections.
93. Please comment on how the exit velocities for the engine and flare were determined?
94. Please provide electronic copies of all ARMET model input files.

Landfill gas (LFG) combustion emission rates

95. Please justify the selection of 500ppm for the maximum hydrogen sulphide (H₂S) content of the LFG.
96. Table 7.3 emission rates – please provide a further breakdown and clarification of the inputs and calculations, as the emission factors stated in Table 7.3 do not reconcile with Table 2.4-4 of AP42.
97. a) Please confirm what type of combustion device is the engine – internal combustion, or gas turbine (or other)? Please provide make and model of engine, and an emissions specification sheet for the engine.
b) Does the engine have the ability to operate on diesel or in dual-fuel mode?
98. a) Provide commentary on how often the flame goes out on the existing flare at the GIWWTP?
b) When it goes out, how long does it vent uncombusted LFG? Is this monitored?
c) Please provide flame record data if available.
d) What is the procedure and time needed for a manual reignition if needed?
99. What design is proposed for the new flare?
100. 80% capture of LFG implies 20% of LFG is vented as a fugitive emission. Please comment on the nature of volatile organic compounds (VOCs) within these fugitive emissions and the potential for those VOCs to cause adverse impacts for sensitive receptors.

Cumulative impacts with biogas generated at the GIWWTP

101. Please describe how biogas generated at the GIWWTP is combusted and provide biogas combustion rates comparative to the LFG combustion. Has a cumulative assessment of both sources of combustion gas emissions been included in the AQA?

Existing Odour Impacts

102. Complaints by year are graphed in Figure 5.1 of the AQA. Is there any known reason for the complaints in 2018/19 being much higher than in 2020/21?
- 103.
- a) Please provide a full electronic copy of the complaints record that was analysed.
 - b) Where was the complaints data sourced from?
 - c) Please confirm if all complaints that are received by DCC and/or the landfill are forwarded to ORC.
104. Please provide a copy of the last three community odour survey reports.
105. The FIDOL analysis of existing impacts relies on straight-line trajectory for wind directions measured at the site and does not account for meandering wind. This meandering wind is something that was noticed at the site visit and is understood to be common due to the landfill topography. Does the FIDOL assessment and conclusions change if wind meandering is considered?

Proposed odour mitigation measures

106. A mitigation objective is stated to be keeping the working face size to a minimum.
- a) The Design Report recommends no greater than 500m² “for the majority of the time” – is this achievable and if so, when will it be achieved? If it is not achievable, please explain why and describe how efforts will be made to achieve this recommendation as far as practicable.
 - b) The current operational plan requires a maximum 900m² working face size (as stated in Section 6.1.1). For context, what was the size of the working face on the day of the site visit (we note that the reason for the current working face size was explained during the site visit, this question relates only to what the actual size was)?
 - c) The proposed consent condition for the working face size is “must not exceed 900m², except under some conditions it may be expanded to 1200m²”.
 - This is inconsistent with the Design Report recommendation for 500m² which is for fire risk mitigation; please propose how the recommendation from the Design Report can be reflected in the consent conditions.
 - One of the allowed conditions for the expanded working face of 1200m² is “where landfill gas escape from underneath the day’s refuse, and odour from the day’s refuse are unlikely”. Please explain how this condition would be assessed and interpreted.
 - d) There is a separate recommendation to limit the tip face width to 30m. Please explain why this limitation is needed in addition to the working face area restrictions.
107. Another mitigation objective is “operating and maintaining the existing odour controls systems on the site”. Please identify what these existing odour control systems are, or is this just a generic reference to the other odour mitigation measures described in the AQA?
108. “Regular odour scouting” is identified as a proposed mitigation measure for irregular odorous activities.
- a) Please describe the methodology that will be used for this odour scouting, and whether it will be used regularly or just for irregular loads. Additionally, provide

- comment on whether the odour scouting can be implemented quickly enough when a load is received?
- b) Provide confirmation on whether there is any odour scouting carried out now? If so, please provide further information about this including methodology, frequency, and results.
109. *Lime-stabilised biosolids.* At the site visit we were told that the lime stabilisation is now in place. Provide comment on when these started to be received at the site?
110. *Scheduling to avoid unfavorable meteorological conditions.*
- a) Please comment on the practicality of scheduling activities to avoid unfavorable meteorological conditions, and give at least one example of where and how this has been done at the landfill.
- b) Please also give examples of where this is likely to be impractical as a mitigation measure.
111. *Odour cannon*
- a) Is the intention to position the odour cannon upwind or downwind of the source, and does it matter? Both locations are mentioned in various parts of the AQA.
- b) Is the odour cannon only used in special odour-emitting circumstances, or any time wind speeds are low?
- c) What odour neutralizing chemical is used with the odour cannon.
- d) The existing cannon on-site that was seen during the site visit did not appear to be trailer-mounted as mentioned in the AQA, how is it rapidly deployed when needed?

Administrative matters

112. Please provide GPS coordinates (NZTM 2000 format) for locations where consent activities are to occur. For more general activities, a midpoint will suffice but for specific activities please include all relevant coordinates. For example, upstream and downstream extent of diversion.

Your application will be placed on hold under section 88C of the Act until the requested information has been received. Unless I hear otherwise from you I will continue to do some minor work on your application so that we can progress it once the application comes 'off hold'.

In accordance with section 92A of the Act, please respond within 30 working days from the date of this letter (**14 June 2023**) with one of the following:

1. The information requested above; or
2. Written advice that you agree to provide the information, and the date by which you intend to provide it; or
3. Written advice that you refuse to provide the requested information.

The Act requires Council to publicly notify your application if you do not provide the requested information before the due date (or an agreed alternative date), or if you refuse to provide the information. It is, therefore, important that you contact us promptly to discuss an alternative timeframe if you are unable to provide the information by the due date.

If the information you provide raises more questions, your application will remain on hold until sufficient information has been provided to enable processing to continue.

If you have any further queries, please contact me on (03) 474 0827 or 0800 474 082.

Information on the current processing costs for your application is included in the email relating to this letter.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Rebecca Jackson', with a long, sweeping flourish extending to the right.

Rebecca Jackson
Acting Team Leader Consents

Appendix 1. Figure for question 60.

