13 September 2024

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Otago Regional Council
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Dunedin 9054

Sent via: Shay.McDonald@orc.govt.nz

Response to Section 92 Request: Consent Application RM21.668 – Mt Cooee Landfill, Balclutha

Dear Shay,

Thank you for the Section 92 further information request we received on 27 July 2024 in relation to Clutha District Council's resource consent application RM21.668 to renew resource consents associated with the Mt Cooee Landfill in Balclutha.

Please find our responses to your questions below.

Water Quantity and Quality

3. *Please provide an updated Compliance Monitoring Schedule that clearly and unambiguously describes all ground and surface water (stormwater, Clutha River/Mata-au, onsite waterbodies, wetland) monitoring that is proposed for the duration of the consents, including parameters to be measured, monitoring locations, sampling frequencies, identifies any additional monitoring sites that will be established, and explains why the proposed monitoring is appropriate to ensure that adverse effects are identified and addressed. The Compliance Monitoring Schedule should also set out the specific trigger levels for each contaminant that will be relied upon in the Trigger Action Response Plan.*

   Response:

   The following draft consent conditions, coupled with the attached Monitoring Schedule (Schedule 1 and 2), are presented to identify and address the potential adverse effects of the activity.

   Monitoring

   1. *The sampling required by this consent shall be undertaken at the locations identified in the sampling locations map in Schedule 1. Parameters required for monitoring and their sampling intervals are provided in Schedule 2.*

   2. *The monitoring required by this consent may be amended after consultation between the consent holder and the Otago Regional Council, and written confirmation by the Otago Regional Council of approval of any changes. The Otago Regional Council reserves the right to re-instate the monitoring required by this consent if there is an effects-based reason to do so.*

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Advice note: The amendments enabled by this condition do not constitute a s127 change of conditions.

Trigger level response – stormwater

3. *If a stormwater trigger level is exceeded, the consent holder shall notify the Otago Regional Council within 48 hours and undertake the following further monitoring within 2 working days at the monitoring point where the exceedance occurred:*
    - *pH*
    - *conductivity*
    - *chloride*
    - *ammoniacal nitrogen*
    - *boron*
4. *If the results of further monitoring of stormwater show that any measured parameter exceeds the following 'action trigger' limits:*

a) *A conductivity level of 200 mS/m*

b) *ANZG 2022 80% level of protection guideline value, being:*

- *Boron: 1.3 g/m^3*
- *Ammoniacal N: 2.3 g/m^3*

then the Consent Holder shall notify the Otago Regional Council within 24 hours and the consent holder shall ensure management of stormwater is in accordance with the Stormwater Contamination Mitigation Plan.

5. *The consent holder shall repeat the sampling required by point (1) for the sampling points that exceeded the trigger value at weekly intervals until at least two consecutive monitoring rounds show no evidence of leachate contamination. At which point, any measures implemented to avoid effects from the trigger exceedances (e.g. measures outlined in the Stormwater Contamination Mitigation Plan) may cease, with management reverting back to routine operation.*
6. *The consent holder shall report to the Otago Regional Council on the environmental importance of any exceedances of the trigger levels, and any remedial or contingency measures proposed. This report shall be forwarded to the Otago Regional Council within two weeks of the results showing the exceedance being received.*
7. *Upon request by the consent holder, the sampling and testing required by conditions 3 and 4 may be waived with the written approval of the Otago Regional Council.*

Advice Note: To clarify, this condition does not permit any level of leachate contamination of the stormwater discharged from the site.

Trigger level response – groundwater

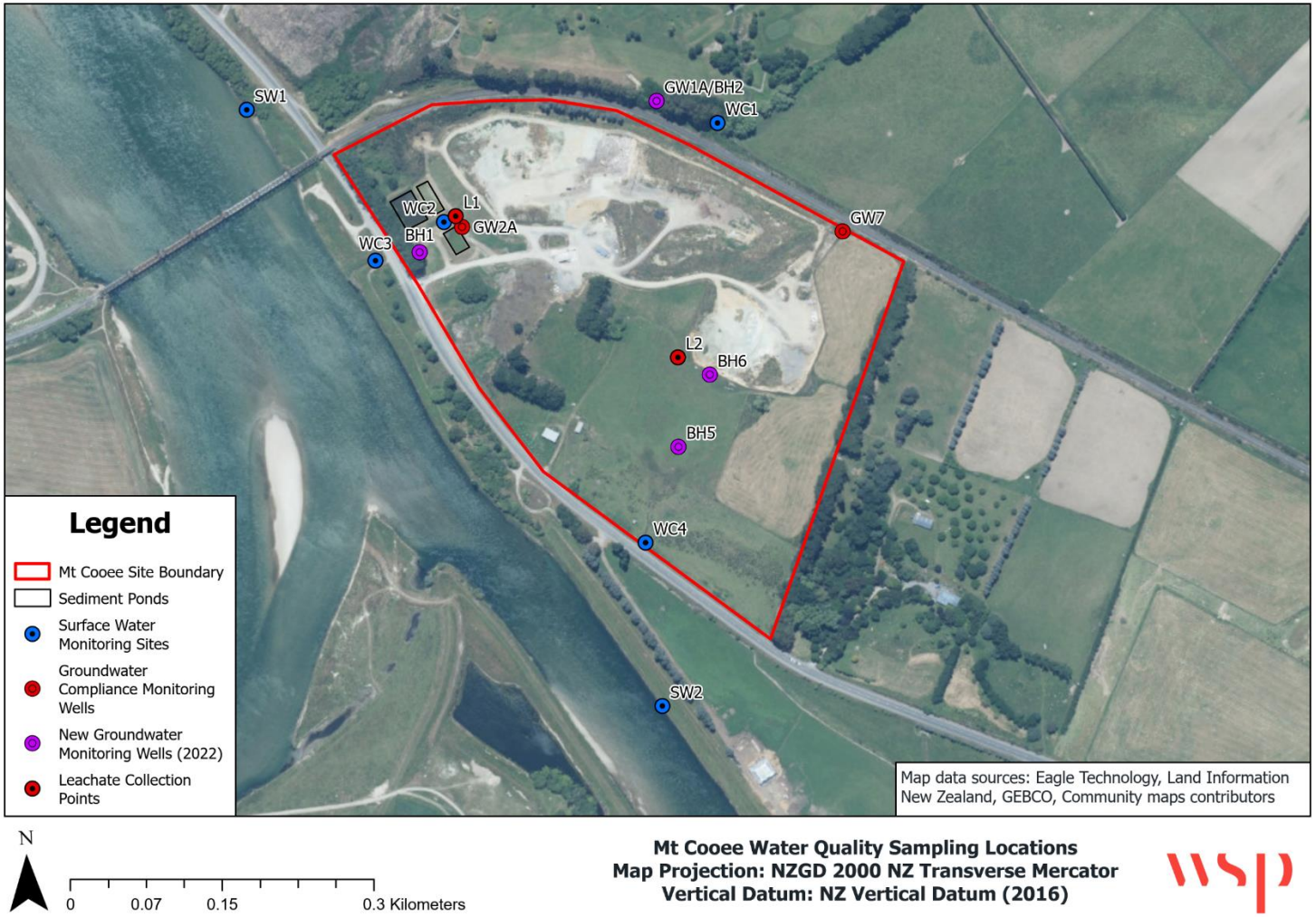
Trigger Levels

- *Existing bores – mean + 3 std deviations of all of records*
- *New bores – Base line of 4 sample round (minimum) and then mean + 3 std dev of all records.*

If a groundwater trigger level is exceeded at any monitoring bore, then:

1. *Any exceedance shall be reported to the Otago Regional Council within 5 working days; and*
2. *Within 10 working days of the consent holder being aware of the exceedance, the monitoring location shall be sampled and tested again for:*
   - *conductivity*
   - *chloride*
   - *potassium*
   - *ammoniacal-N*
   - *Nitrate-N*
   - *boron*
3. *The consent holder shall undertake an appropriately detailed investigation to identify the cause of the exceedance and provide a report to the ORC outlining this and the environmental importance of the trigger exceedance, and any remedial or contingency measures proposed. This report shall be forwarded to the ORC within one month of receiving the results showing the trigger exceedance.*
4. *The consent holder shall repeat the sampling required by point 2. for the sampling points that exceeded the trigger value at least monthly intervals until at least two consecutive monitoring rounds return results below the groundwater trigger levels.*
5. *Upon request by the consent holder, the sampling and testing required by conditions 2 and 4 may be waived with the written approval of the Otago Regional Council.*

Schedule 1: Water Quality Sampling Locations



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4. *Please provide an assessment of the cumulative effects on water quality that takes into account the updated leakage rates from the proposed expansion. The cumulative effects assessment should consider all waterbodies that may be impacted by the landfill and should discuss those effects which result from the incremental effects of the activity over time and effects that arise in combination with other activities.*

Response:

The following table calculates predicted contaminant concentrations that might arise in the unlikely event that all wrinkles that form fail. Wrinkle failure is predicted to result in 113 m^3 per year of untreated leachate leaking to groundwater. This leachate will also need to bypass the underdrainage system before encountering existing groundwater and resurfacing to the nearby wetland area and stream. Calculations are based on the total wrinkle failure volume of 113 m^3/year and so it represents the end state effect for water quality. Effects of the wrinkle failure leachate leakage has already been assessed for the Clutha River and contained within WSP memo response dated February 2024, however, calculations presented are as follows:

"6. The possible effect on the Clutha River of any discharge via the groundwater system can be discounted as insignificant and unmeasurable. The mean discharge of the Clutha at Balclutha is 614 m^3/s, say 20% goes down Matau branch = 123m^3/s X 365 x 86400 = 3.8 Billion m^3 of water per year. Assuming 113 m3/year max of leakage. = dilution of 34 million times. And that assumes that all the leachate contaminants reach the river without any attenuation/degradation in the groundwater system."

Parameter	Expansion area predicted downgradient groundwater conc (mg/L) due to wrinkle failure	95% Species protection values (mg/L)
Aluminium	3.1	0.055[1]
Ammoniacal Nitrogen	40.8	0.2[2]
Arsenic	0.009	0.013[1]
Boron	0.8	0.37[1]
Cadmium	0.0008	0.0002[1]
Calcium	48.3	
Chloride	200.2	
Chromium	0.5	0.001[1]
Dissolved Reactive Phosphorus	0.5	0.045[2]
Iron	6.2	
Lead	0.008	0.0034[1]
Magnesium	32.4	

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Manganese	1.0	1.9[1]
Nickel	0.2	0.01[1]
Nitrate nitrogen	0.1	2.42[1]
pH	-	
Potassium	36.7	
Silica	28.3	
Sodium	136.9	
Sulphate	52.7	
Total Kjeldahl Nitrogen	81.0	
Zinc	0.3	0.008[1]

[1]ANZG. (2018). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Default guideline values for freshwater protection: 95% of species.

[2]ORC (2016). Otago Regional Council, Regional Plan: Water for Otago. Schedule 16A: Discharge Thresholds for Discharge Threshold Area.

Failure of the landfill liner would likely result in landfill leachate travelling to the underlying groundwater and subsequent release to nearby surface water features such as the small stream and wetland areas. Monitoring is proposed along with trigger response actions to manage these effects should they occur.

Ecology

5. *Please confirm that an Adaptive Management Plan for the management of birds is proposed, and that this plan:*

    a. *will clearly set out in a step-wise fashion the bird management measures that will be taken; and*

    b. *will prioritise those bird management measures that have a less detrimental (to birds over other measures such as shooting or poisoning.*

    Response:

    We understand that this has been asked in previous Section 92 responses. It is noted that what is in the Landfill Management Plan only includes some bird deterrence options. We can confirm that adaptive bird management with less detrimental measures will be prioritised should targets not be met following those management measures currently outlined in the Landfill Management Plan.

6. *The Bird Management Plan (BMP) states that "there are not expected to be any additional bird strike risks or increased bird numbers associated with landfill expansion". This does not identify what the current level of risk is. I also note that the BMP describes a series of factors that should be considered when assessing the risk of bird strike, but no conclusions as to the overall level or risk are drawn. Please provide an assessment of the bird strike risk to the aerodrome that clearly states*

the expected level of bird strike risk i.e. please assess the effects of birds on this party.

Response:

As indicated in the Bird Management Plan (BMP) previously provided, the current risk of bird strike at the Balclutha Aerodrome is high largely independent of the landfill. This risk is not expected to change with the proposed landfill expansion. As per Table 1 in the BMP, the bird strike risk of birds soaring above the landfill (site risk) ranges from low to high, depending on the species, and for those flying to or from the landfill (flight path risk), the risk is moderate to high under both the existing scenario and for the proposed landfill expansion scenario.

Air Quality

7. *Please confirm whether or not you agree to adopting the consent conditions as described in the response to Q3 (pages 3-6) of Mr Iseli's memo?*

   Response:

   We generally agree to most of the proposed consent conditions as they are generally good landfill practice. However, we have proposed changes to some of the conditions (via tracked changes) below. In particular, we would not accept the proposed condition requiring 500mm of daily cover as daily cover should be effects based. In addition, yes the leachate sump will be pumped down daily. The details of the flare will be provided as part of the LFGMP and we do not consider it necessary to describe this level of detail at this stage of the design process.

8. *Please provide a brief assessment of the effects of landfill gas emissions on climate change. I would consider that a planning assessment is sufficient to address this question.*

   Response:

   Any unnecessary discharge of methane is ideally to be avoided. However, in the overall context of the national inventory, the contribution from a 7,500 tpa landfill is very small. CDC will comply with any requirement for landfill gas collection and destruction as may be required by the adopted Government Emissions reduction Plan. ERP #2 currently out for consultation does not place a definitive requirement on the collection of gas from small landfills.

Landscape and Visual Assessment

9. Please confirm whether or not you agree to adopt the consent conditions as recommended by Ms McManaway in the response to Q3 (pages 2-3) on the memo?

   Response:

   Before agreeing to any consent conditions, we would need to see and review final proposed consent conditions, particularly as the consent conditions recommended by Ms McManaway are relatively brief in scope and detail. We have provided specific comments below:

Maximum area for active working face

Yes we agree to a condition regarding the maximum working face area as this is good practice. We would still need to review the exact wording of the condition as it needs to be defined quite tightly.

Planting to be established

The conditions relating to planting generally seem reasonable. However, there may be an issue with timing of the earthworks associated with the Resource Recovery Centre – this would obviously have to happen before planting occurs in that area. We would need to see the exact wording of the consent conditions and check the timing against the proposed construction of the Resource Recovery Centre to ensure it is achievable and reasonable.

Fence off and plant the wetland.

In terms of the recommendation to fence off and plant the wetland, we agree that restoration of the wetland would be nice, but we consider that this is more than is required to mitigate for any potential ecological effects. We are hesitant to agree to this without knowing any specifics (such as how much planting; types of plants expected; how far the fencing setback would be; and which specific wetland areas should be restored). Given the effects on the wetland are considered less than minor, we do not consider that the proposed rehabilitation of the wetland is necessary. This may be something Council considers in the future, but we would not want to commit to it now, particularly without knowing any specifics.

If you have any queries or require further information, please contact me (phone 03 373 2031 direct or email aileen.craw@wsp.com). I look forward to your response.

Kind regards,

Aileen Craw
Senior Planner